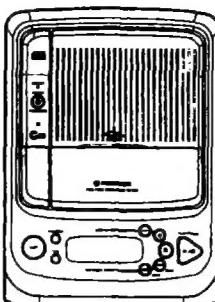


Service Manual



ORDER NO.
RRV 1667

FILE-TYPE CD PLAYER **PD-F25**

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model	Power Requirement	Remarks
	PD-F25		
KU	O	AC120V	

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1. SAFETY INFORMATION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual. Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant which may cause birth defects or other reproductive harm (California Health & Safety Code, Section 25249.5).

When servicing or handling circuit boards and other components which contain lead in solder, avoid unprotected skin contact with the solder. Also, when soldering do not inhale any smoke or fumes produced.

(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60 Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5 mA.

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

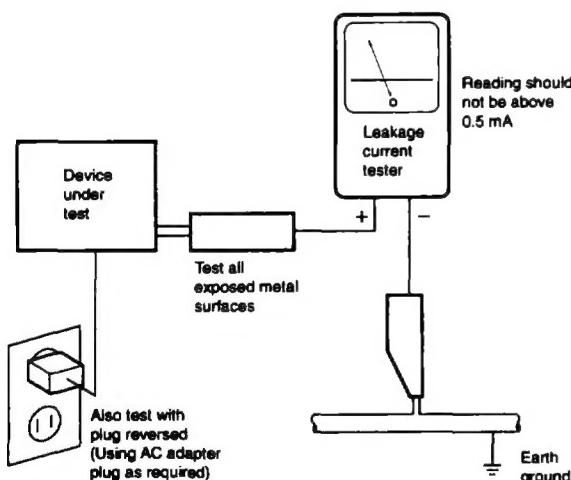
2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a 1 on the schematics and on the parts list in this Service Manual.

The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.



AC Leakage Test

2. EXPLODED VIEWS, PACKING AND PARTS LIST

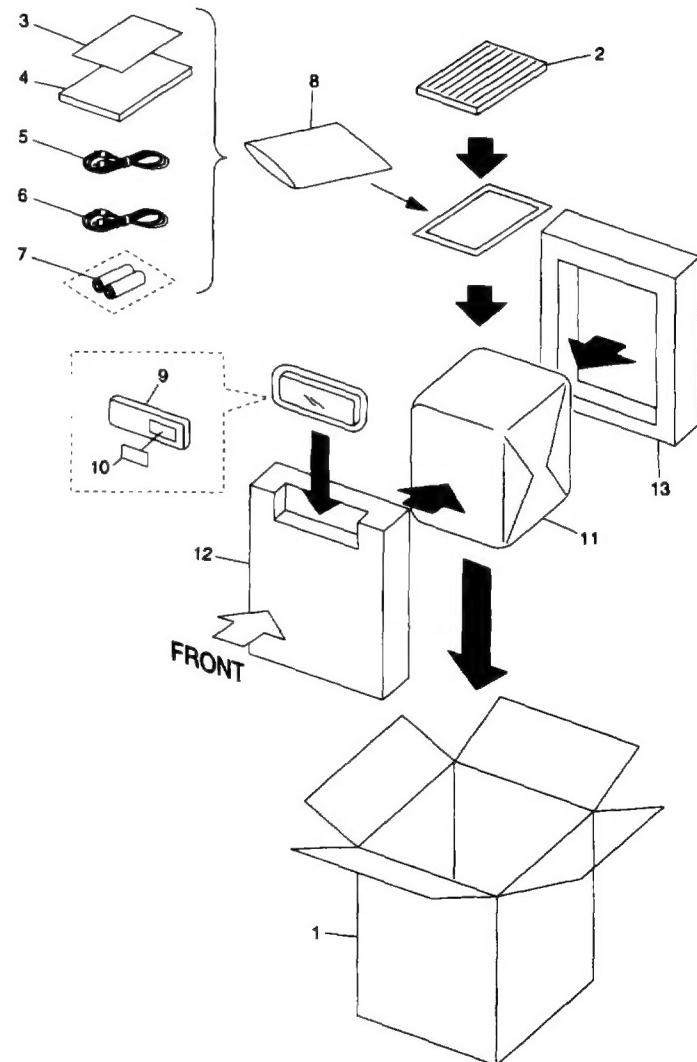
NOTES:

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "●" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

2.1 PACKING

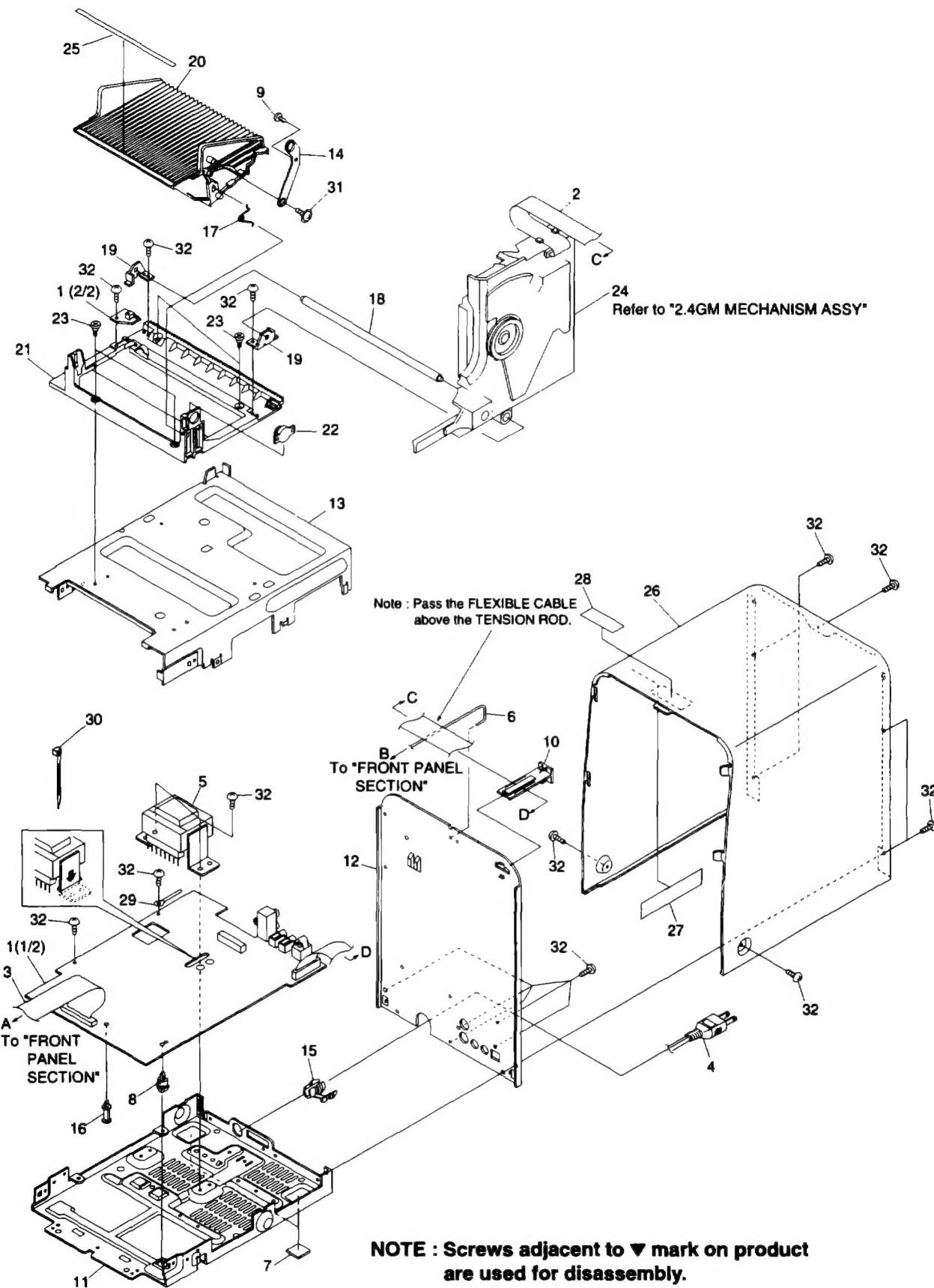
Parts List

	Mark No.	Description	Parts No.
NSP	1	Packing Case	AHD7335
	2	CD Case Rack	AMR7066
	3	Warranty Card	ARY1044
	4	Operating Instructions (English)	ARB7087
	5	Cord with Mini Plug	PDE1247
NSP	6	Cord with Plug	PDE1248
	7	Battery (R6P, AA)	VEM - 013
NSP	8	Poly. Bag	Z21 - 019
	9	Remote Control Unit (CU - PD079)	AXD7072
	10	Battery Cover	AZA7148
	11	Mirror Mat Sheet (800X900X0.5)	Z23 - 020
	12	Pad F	AHA7078
	13	Pad R	AHA7079



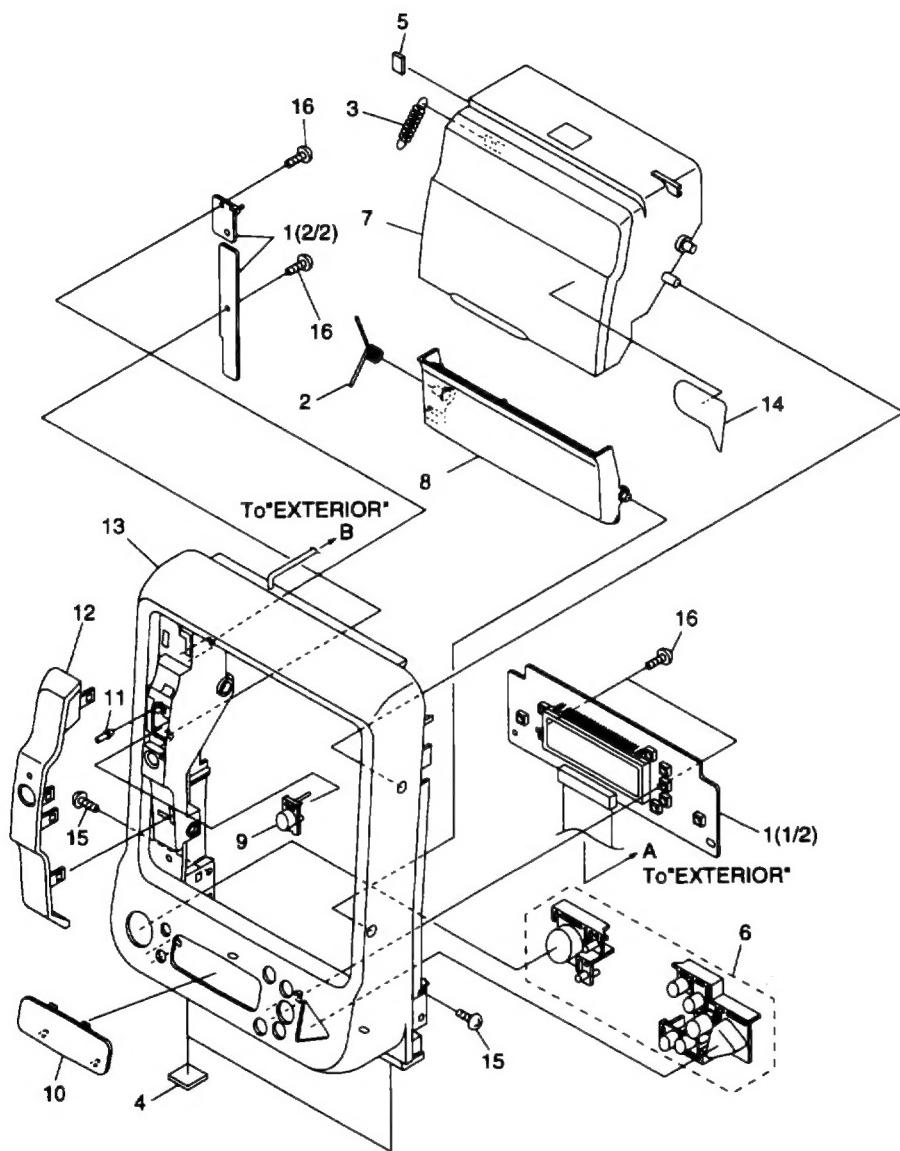
2.2 EXTERIOR**Parts List**

Mark	No.	Description	Parts No.	Mark	No.	Description	Parts No.
△	1	CD ASSY	AWZ8019	NSP	21	Rack Base S	ANW7070
	2	Flexible Cable 22P	ADD7013		22	Damper ASSY	AXA7018
	3	Flexible Cable 29P	ADD7028		23	Screw	PBA1085
	4	AC Power Cord	PDG1015		24	GM Mechanism	AXA7045
	5	Power Transformer	PTT1237		25	Disc Rack Panel	AAK7251
NSP	6	Tension Rod	ABH7105	NSP	26	Bonnet	ANE7082
	7	Rubber Sheet	AEB1111		27	65 Label	ORW1069
	8	PCB Holder	AEC - 785		28	Caution Label	ARW7013
	9	Card Spacer	AEC7053		29	Cord Clamper	RNH - 184
	10	Flexible Guide	AMR7050		30	Binder	ZCA - SKB90BK
NSP	11	Chassis	ANA7027		31	Screw	IBZ30P080FMC
	12	Rear Panel GM	ANC7452		32	Screw	BBZ30P080FZK
	13	Sub Chassis	AND7004				
	14	Link	ANG7045				
	15	Cord Stopper	CM - 22C				
NSP	16	Card Spacer	REC1156				
	17	Rack Spring	ABH7057				
	18	Guide Shaft 25	ALA7007				
	19	Shaft Holder	ANB7021				
	20	Disc Rack	ANW7069				



2.3 FRONT PANEL SECTION**Parts List**

Mark No.	Description	Parts No.	Mark No.	Description	Parts No.	
1	FRNT ASSY	AWZ8025	11	Standby Lens	AAK7182	
2	Door Spring	ABH7065	12	Sub Panel	AAK7205	
3	Hood Spring	ABH7066	13	Front Panel GM	AMB7271	
4	Rubber Sheet	AEB1111	NSP	14	Getter Label	AAX7289
5	Rubber Sheet	AEB7044		15	Screw	BBZ30P080FZK
6	Knob GM	AAD7211	16	Screw	BPZ30P080FMC	
7	Hood	AAK7179				
8	Door	AAK7196				
9	Power Knob GM	AAD7212				
10	FL Panel	AAK7181				



2.4 GM MECHANISM ASSY**Parts List**

Mark	No.	Description	Parts No.	Mark	No.	Description	Parts No.
NSP	1	MECHA BOARD ASSY	AWZ7835		26	Gear Pulley B	ANW7062
NSP	2	SENSOR BOARD ASSY	AWZ7836		27	Gear A	ANW7063
NSP	3	MOTOR BOARD ASSY	AWZ7837		28	Drive Gear	ANW7064
NSP	4	SW BOARD ASSY	AWZ7838		29	Bearing	ANW7065
	5	Arm A Spring 2	ABH7124		30	Gear Pulley A	ANW7066
	6	Gear Plate Spring	ABH7051		31	Select Gear	ANW7067
	7	Clamp Spring	ABH7107		32	Roller	ANW7068
	8	Lock Lever Spring	ABH7120		33	LED Lens	ANW7072
	9	Lock Angle Spring 2	ABH7123		34	Roller B	ANW7075
	10	Loading Belt	AEB7029		35	Motor Pulley	PNW1634
	11	Belt	AEB7030		36	Clamper	PNW2692
NSP	12	Lock Angle	ANB7027		37	Float Spring	ABH7049
NSP	13	Lock Lever	ANB7038		38	Connector ASSY (4P)	ADE7006
NSP	14	Servo Stopper S	ANB7047		39	Float Rubber	AEB7028
	15	Loarding Base	ANW7086	NSP	40	Servo Mechanism ASSY GM	AXA7028
	16	Cam Cover	ANW7052		41	Screw	IPZ20P080FMC
	17	Motor Holder	ANW7053		42	Motor ASSY (SELECT)	AEA7005
	18	Sensor Holder	ANW7054	NSP	43	Motor	PXM1002
	19	Froat Base	ANW7080		44	Motor ASSY (LOADING)	AEA7006
	20	Clamper Holder	ANW7084		45	Loading Motor	VXM1034
	21	Arm (A)	ANW7057		46	Assist Angle 2 BK	ANB7083
	22	Arm (B)	ANW7058		47	Screw	BBZ30P080FZK
	23	Drive Plate	ANW7059				
	24	Arm Plate	ANW7060				
	25	Gear Plate	ANW7082				

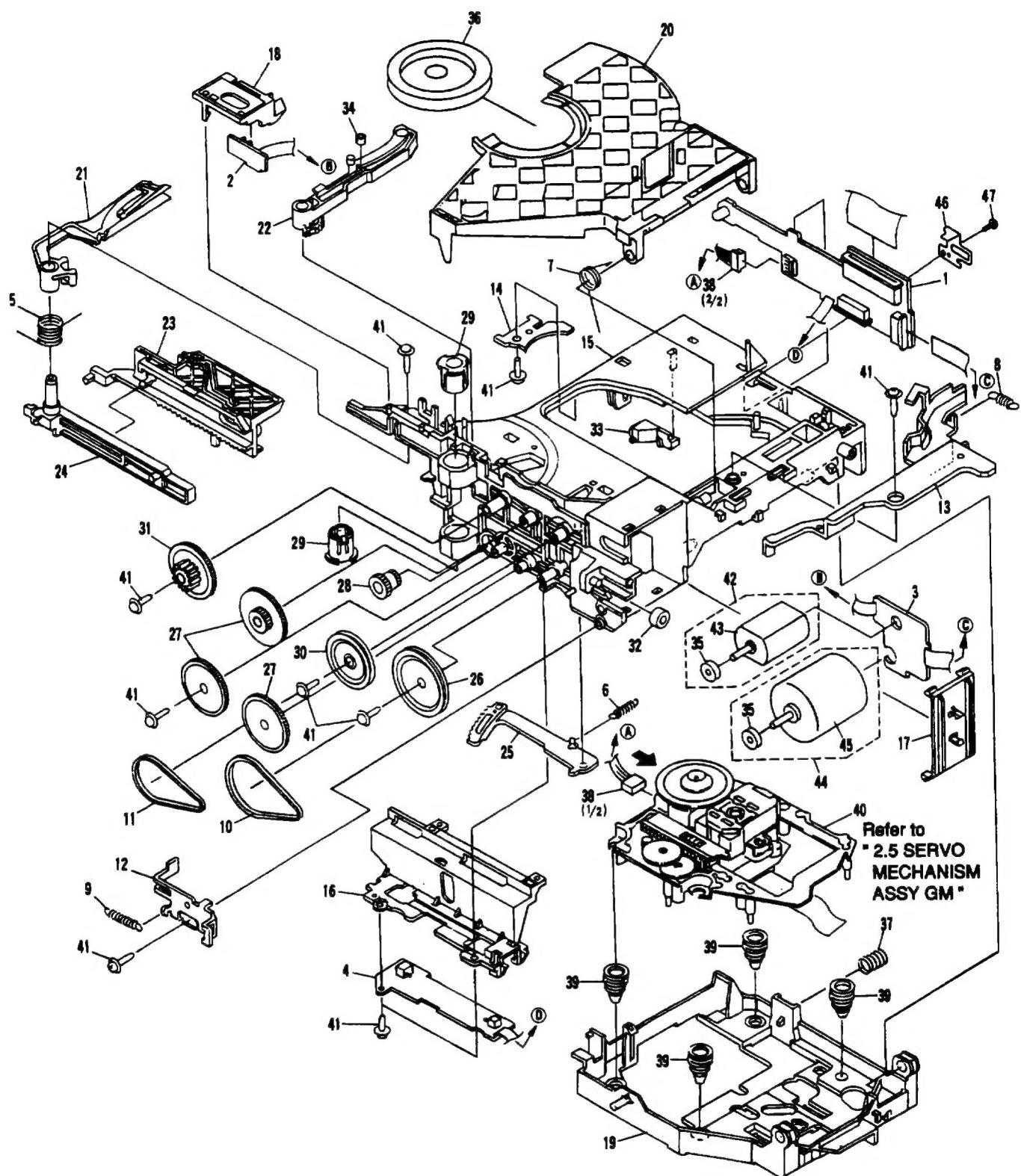
Use oil types for GM Mechanism ASSY

FROIL

HANARL

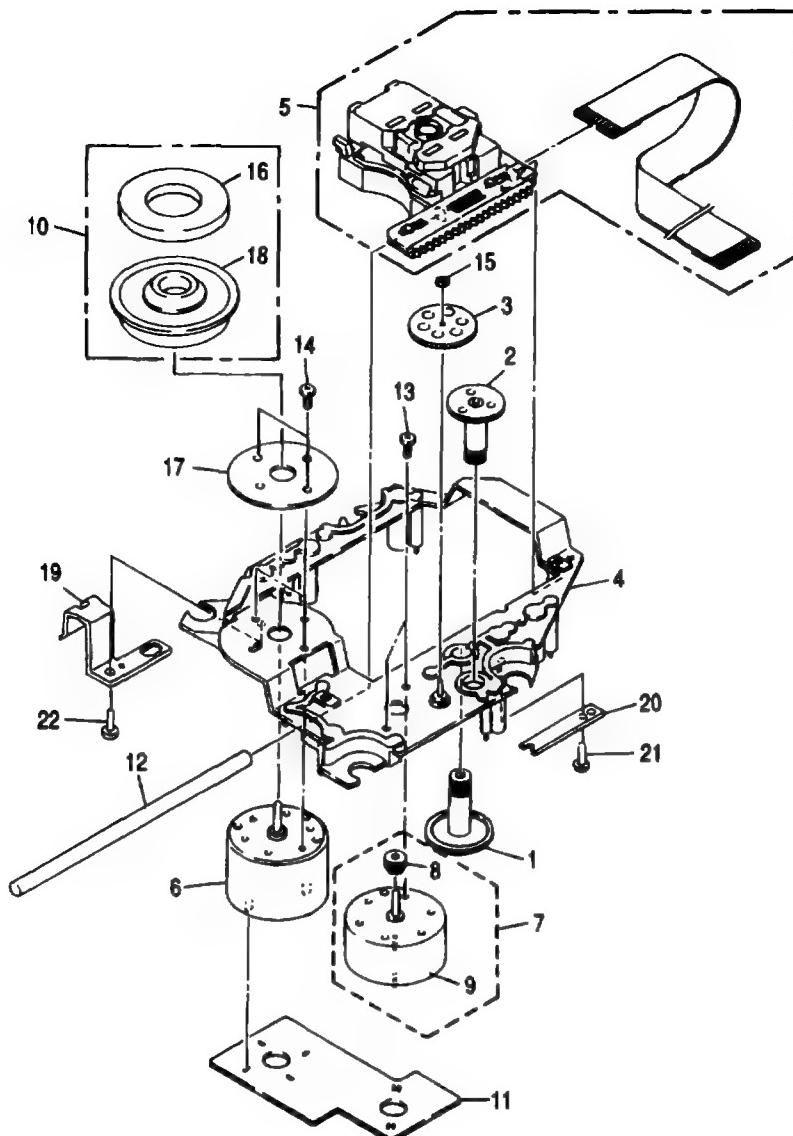
GYA1001

GEM1016



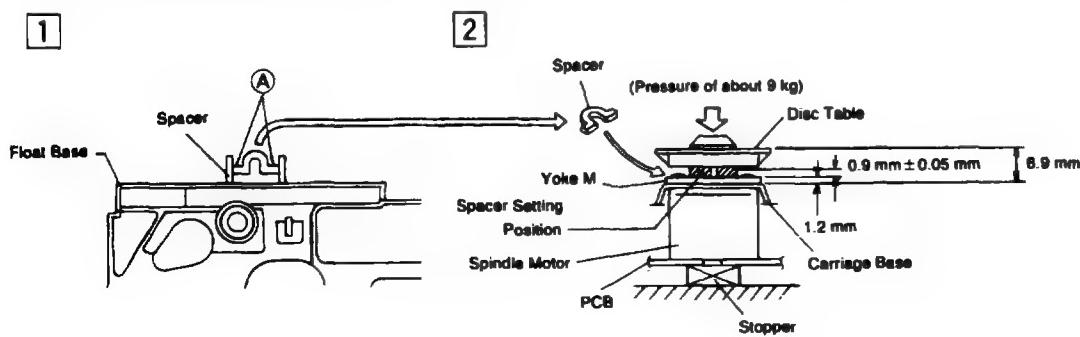
2.5 SERVO MECHANISM ASSY GM**Parts List**

Mark	No.	Description	Parts No.
	1	Gear 1	PNW2052
	2	Gear 2	PNW2053
	3	Gear 3	PNW2054
	4	Carriage Base	PNW2445
	5	PICKUP ASSY	AEA7004
	6	D.C. Motor ASSY	PEA1235
	7	Carriage D.C. Motor ASSY	PEA1246
	8	Pinion Gear	PNW2055
NSP	9	Carriage D.C. Motor/0.3W	PXM1027
	10	Disc Table ASSY	PEA1314
	11	MECHA. PCB ASSY	PWX1192
	12	Guide Bar	PLA1094
	13	Screw	JFZ17P025FZK
	14	Screw	JFZ20P040FMC
	15	Washer	WT12D032D025
	16	Clamp Magnet	PMF1014
	17	Yoke M	PNB1312
NSP	18	Disc Table	PNW2410
NSP	19	Float Angle	ANB7020
	20	Gear Stopper	PNB1303
	21	Screw	BPZ20P060FMC
	22	Screw	BPZ26P100FMC



● How to install the disc table.

- 1 Use Nipper or other tool to cut the two sections marked ① in figure ①.
Then remove the Spacer.
- 2 While supporting the Spindle Motor Shaft with the stopper, put Spacer on top of the Yoke M, and stick the Disc Table on top (takes about 9kg pressure). Take off the Spacer.



3. SCHEMATIC AND PCB CONNECTION DIAGRAMS

NOTE FOR SCHEMATIC DIAGRAMS (Type 4A)

1. When ordering service parts, be sure to refer to "PARTS LIST of EXPLODED VIEWS" or "PCB PARTS LIST".

2. Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.

3. RESISTORS:

Unit: k:kΩ, M:MΩ, or Ω unless otherwise noted.

Rated power: 1/4W, 1/6W, 1/8W, 1/10W unless otherwise noted.

Tolerance: (F): ±1%, (G): ±2%, (K): ±10%, (M): ±20% or ±5% unless otherwise noted.

4. CAPACITORS:

Unit: p:pF or μF unless otherwise noted.

Ratings: capacitor (μF)/voltage(V) unless otherwise noted.

Rated voltage: 50V except for electrolytic capacitors.

5. COILS:

Unit: m:mH or μH unless otherwise noted.

6. VOLTAGE AND CURRENT:

or ← V:

DC voltage (V) in PLAY mode unless otherwise noted.

↔ mA or ← mA:

DC current in PLAY mode unless otherwise noted.

Value in () is DC current in STOP mode.

7. OTHERS:

- or : Adjusting point.

- : Measurement point.

- The mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.

8. SCH-□ ON THE SCHEMATIC DIAGRAM:

- SCH-□ indicates the drawing number of the schematic diagram. (SCH stands for schematic diagram.)

9. SWITCHES (Underline indicates switch position):

FRNT ASSY

- S101 : BEST
- S102 : ⊖(DISC)
- S103 : ►►, ►►(SKIP/SCAN)
- S104 : RANDOM
- S105 : +(DISC)
- S106 : ▲▲, ▲▲(SKIP/SCAN)
- S107 : TIME
- S108 : ■(STOP)
- S109 : ▶/■(PLAY/PAUSE)
- S201 : POWER
- S301 : RACK

CD ASSY

- S401 : HOME

SW BOARD ASSY

- S651 : CLAMP
- S652 : EJECT

MECHA. PCB ASSY

- S610 : INSIDE

NOTE FOR PCB DIAGRAMS

1. Part numbers in PCB diagrams match those in the schematic diagrams.

2. A comparison between the main parts of PCB and schematic diagrams is shown below.

Symbol in PCB Diagrams	Symbol in Schematic Diagrams	Part Name
		Transistor
		Transistor with resistor
		Field effect transistor
		Resistor array
		3-terminal regulator

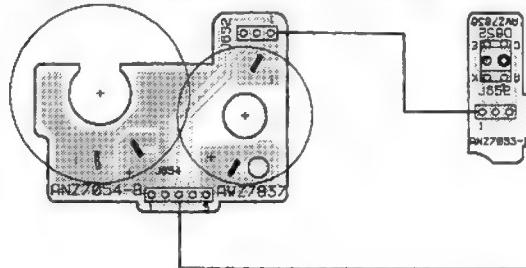
3. The parts mounted on this PCB include all necessary parts for several destination.

For further information for respective destinations, be sure to check with the schematic diagram.

3.1 MECHA BORAD, SENSOR BOARD, MOTOR BOARD, SW BOARD, PICKUP AND MECHA. PCB ASSEMBLIES

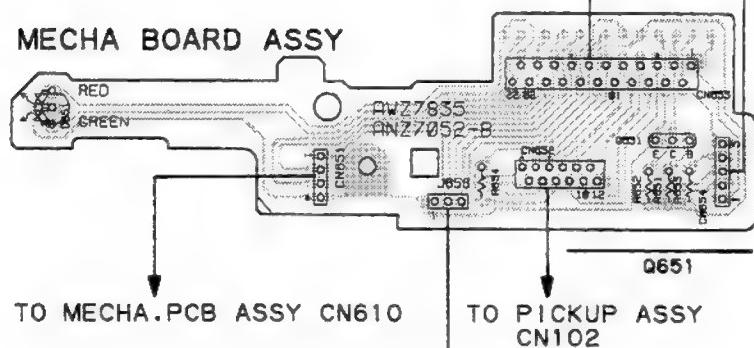
PCB-1

MOTOR BOARD ASSY SENSOR BOARD ASSY



TO CD ASSY CN13

MECHA BOARD ASSY

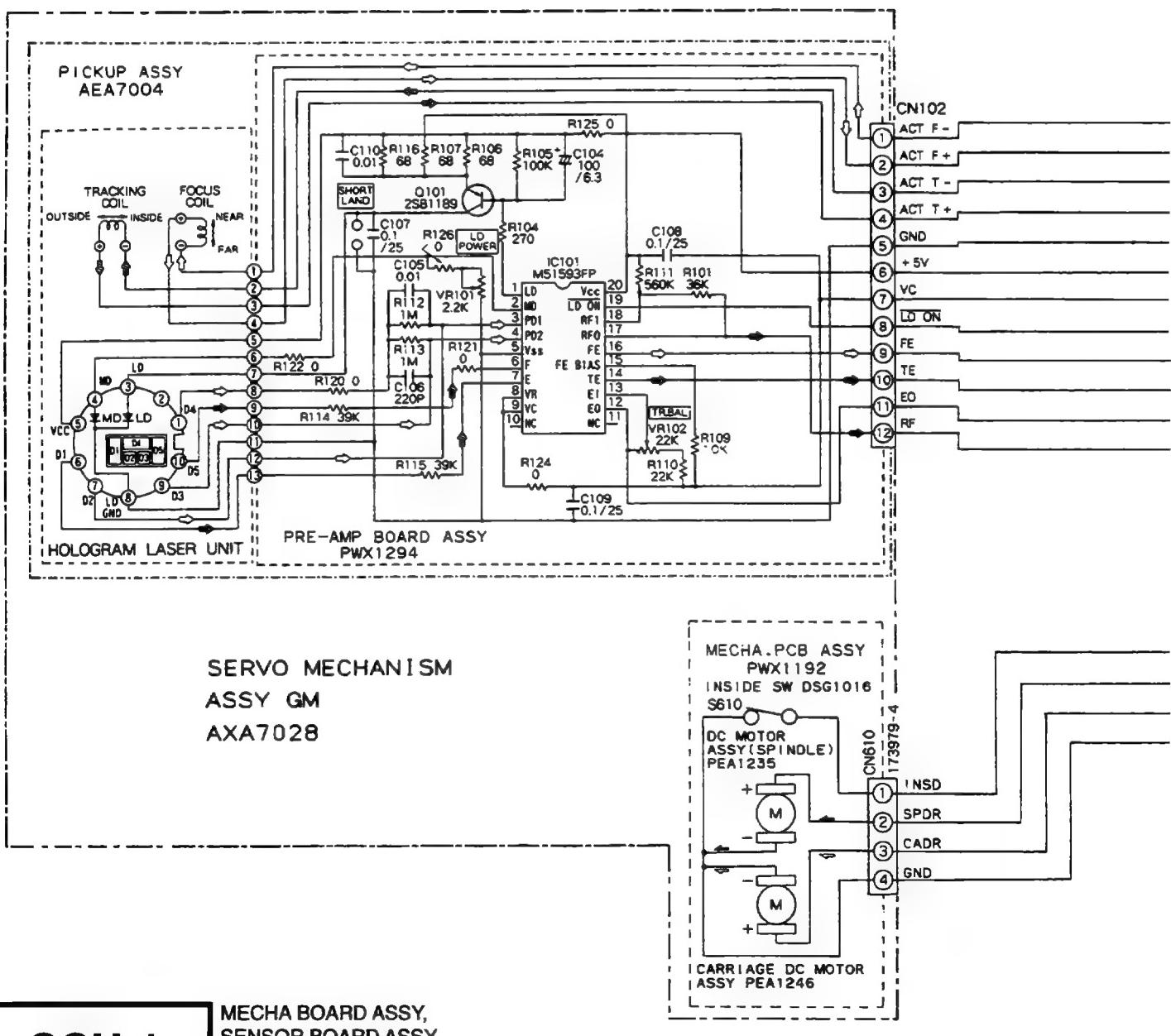


SW BOARD ASSY



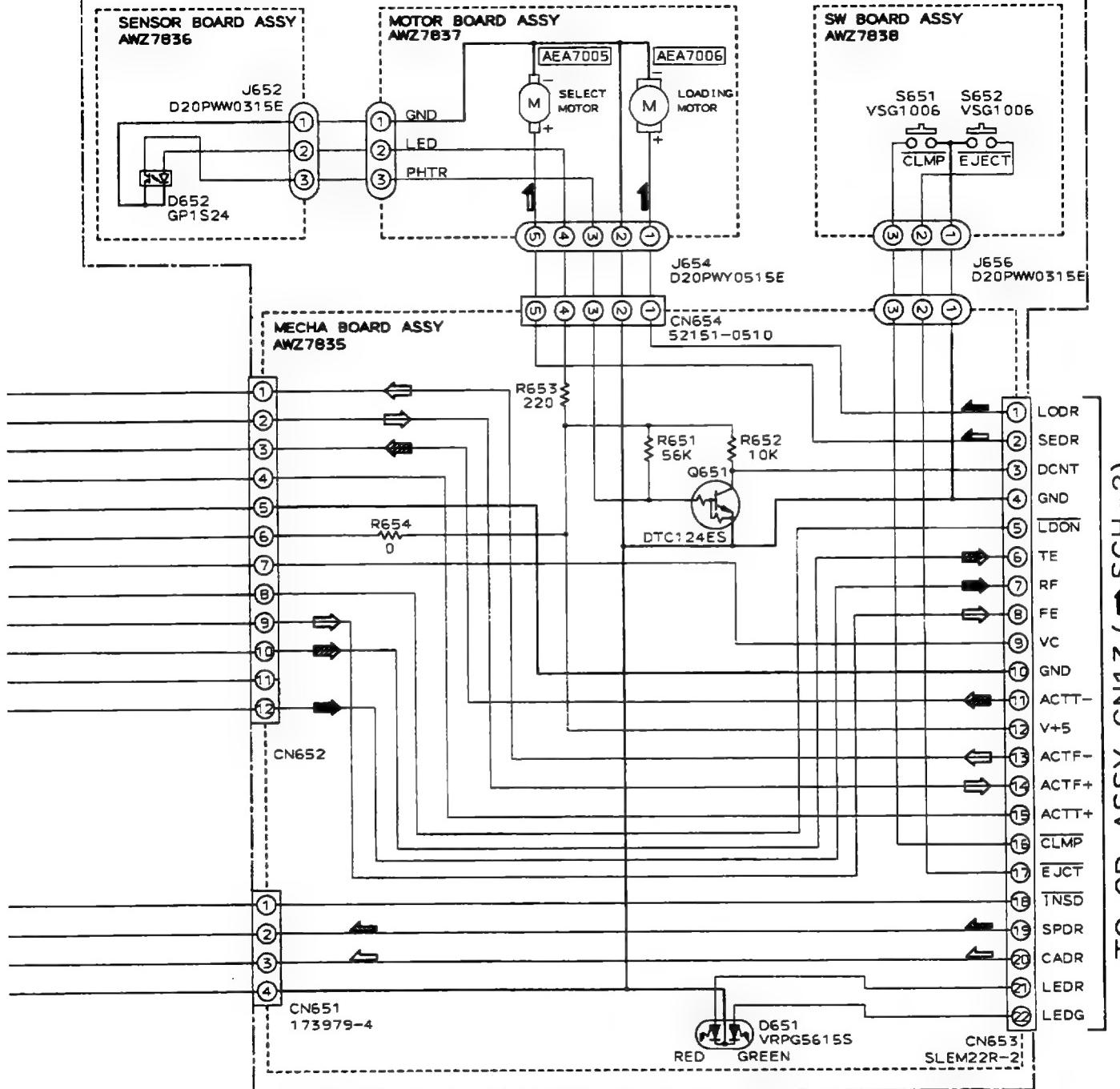
ANP7085-B

- This diagram is viewed from the mounted parts side.



SCH-1

LOADING MECHANISM BOARD ASSY AWX7013



- ⇒ : Focus Servo Loop Line
- ⇒ : Tracking Servo Loop Line
- : Signal Route
- ▲ : Loading Motor Route
- ▲ : Spindle Motor Route
- ▲ : Carriage Motor Route
- ▲ : Select Motor Route

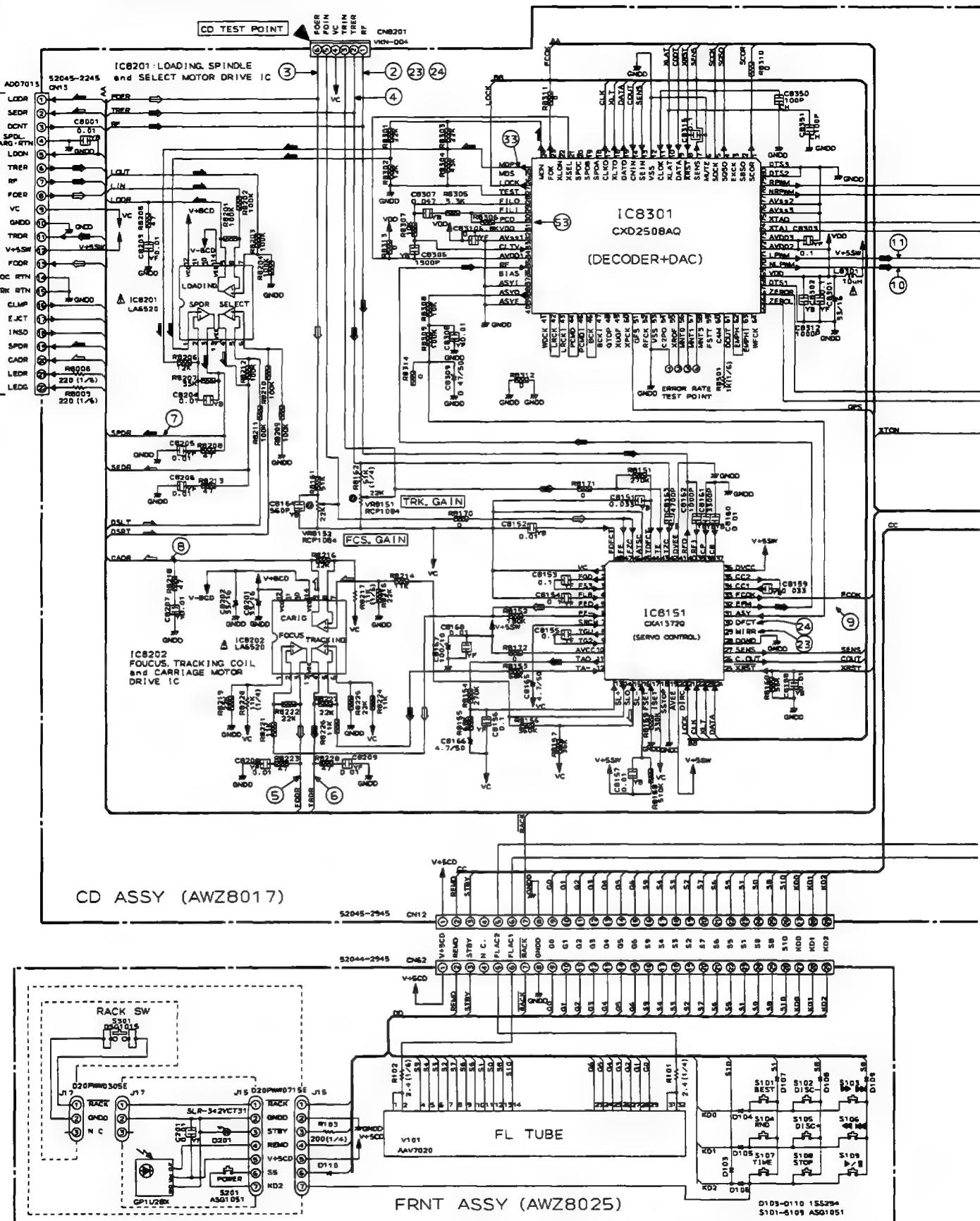
MECHA BOARD ASSY,
SENSOR BOARD ASSY,
MOTOR BOARD ASSY, SW BOARD ASSY,
PICKUP ASSY, MECHA. PCB ASSY

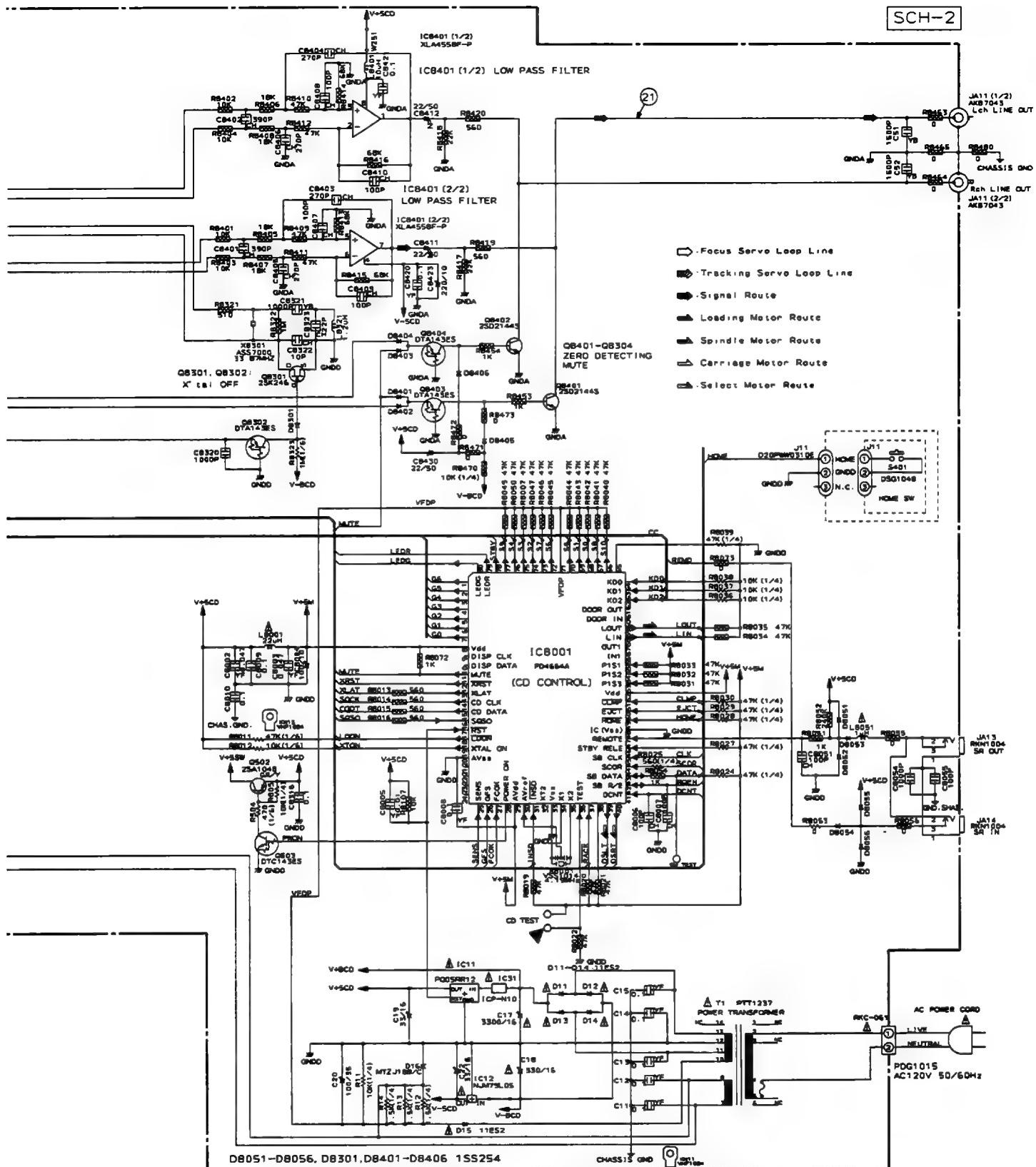
SCH-1

PD-F25

3.2 CD AND FRNT ASSEMBLIES

TO MECHA BOARD ASSY CN653 (SCH-1)





CD ASSY, FRNT ASSY

SCH-2

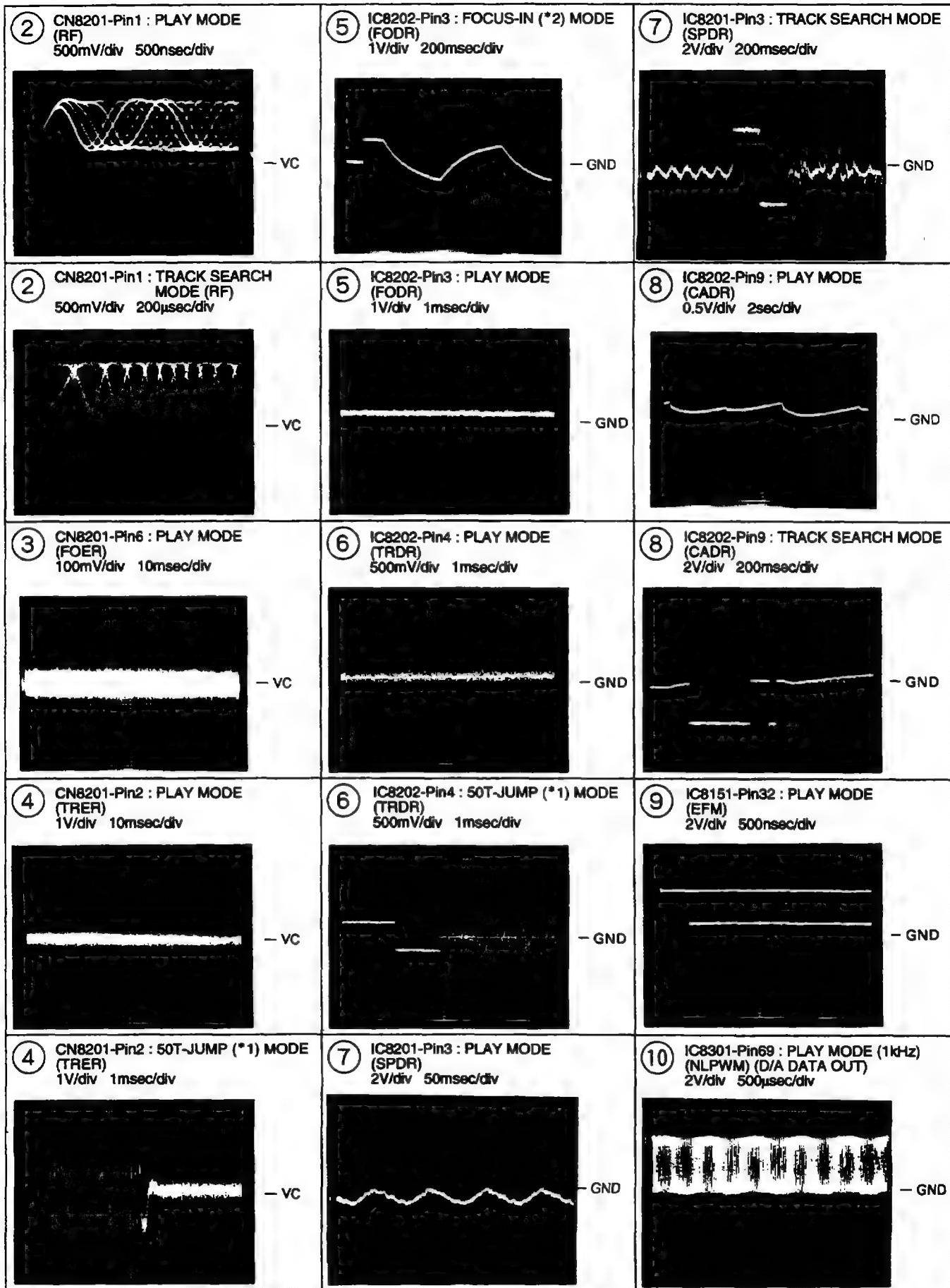
PD-F25

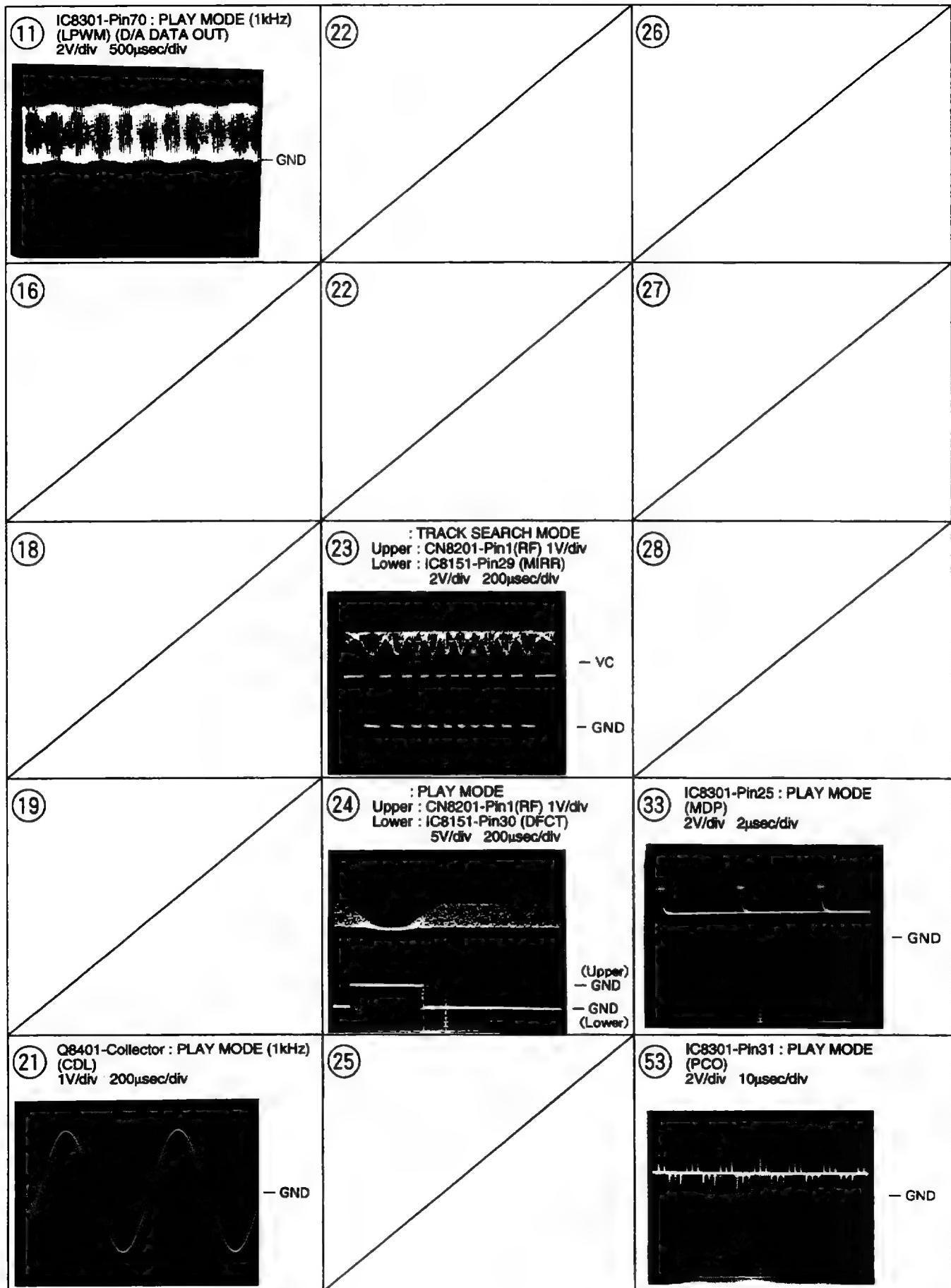
WAVEFORMS

Note : The encircled numbers denote measuring points in the schematic diagram.

*1 SOT-JUMP : After switching to the pause mode, press the manual search key.

*2 FOCUS-IN : Press the key without loading a disc.

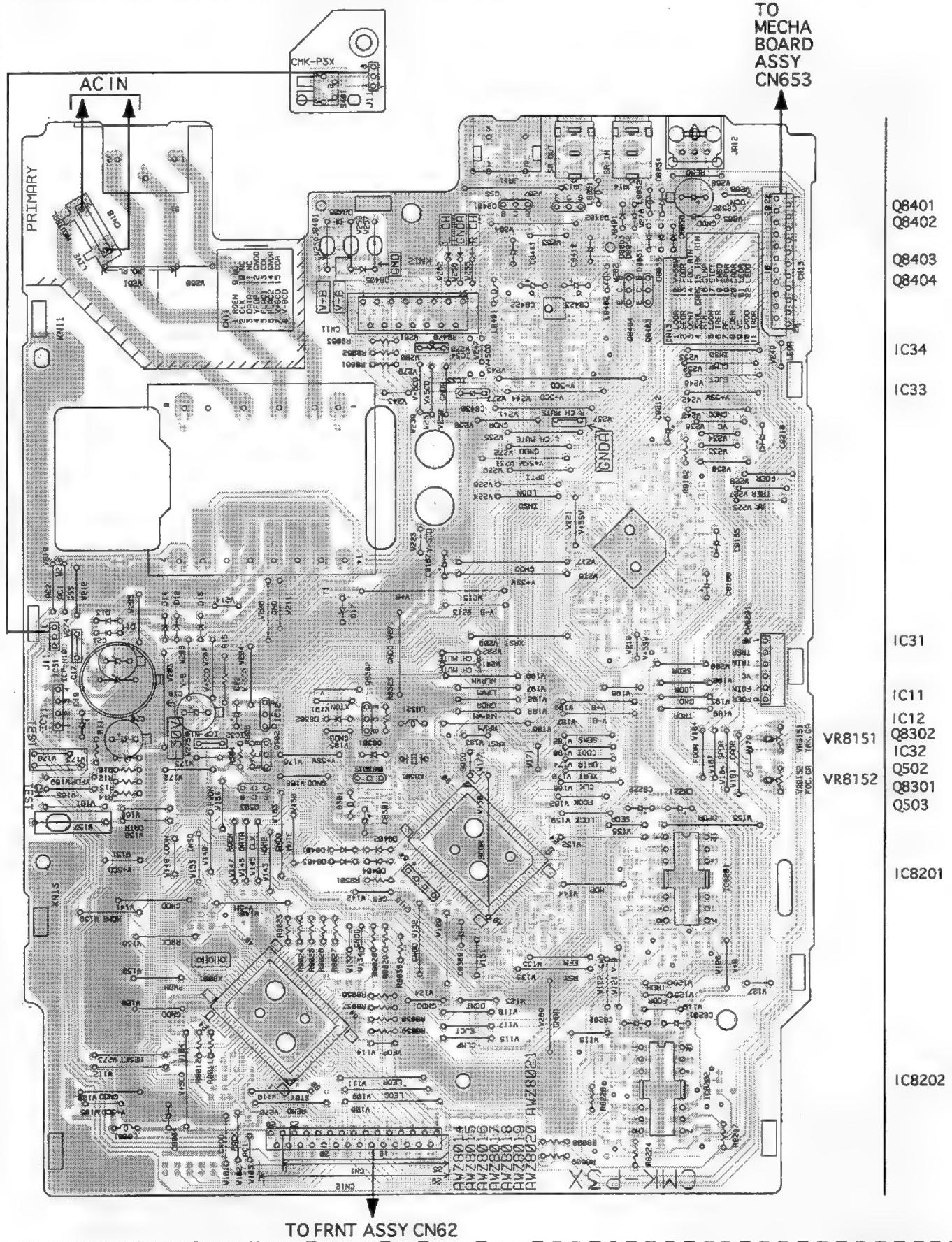




CD ASSY

- This diagram is viewed from the mounted parts side.

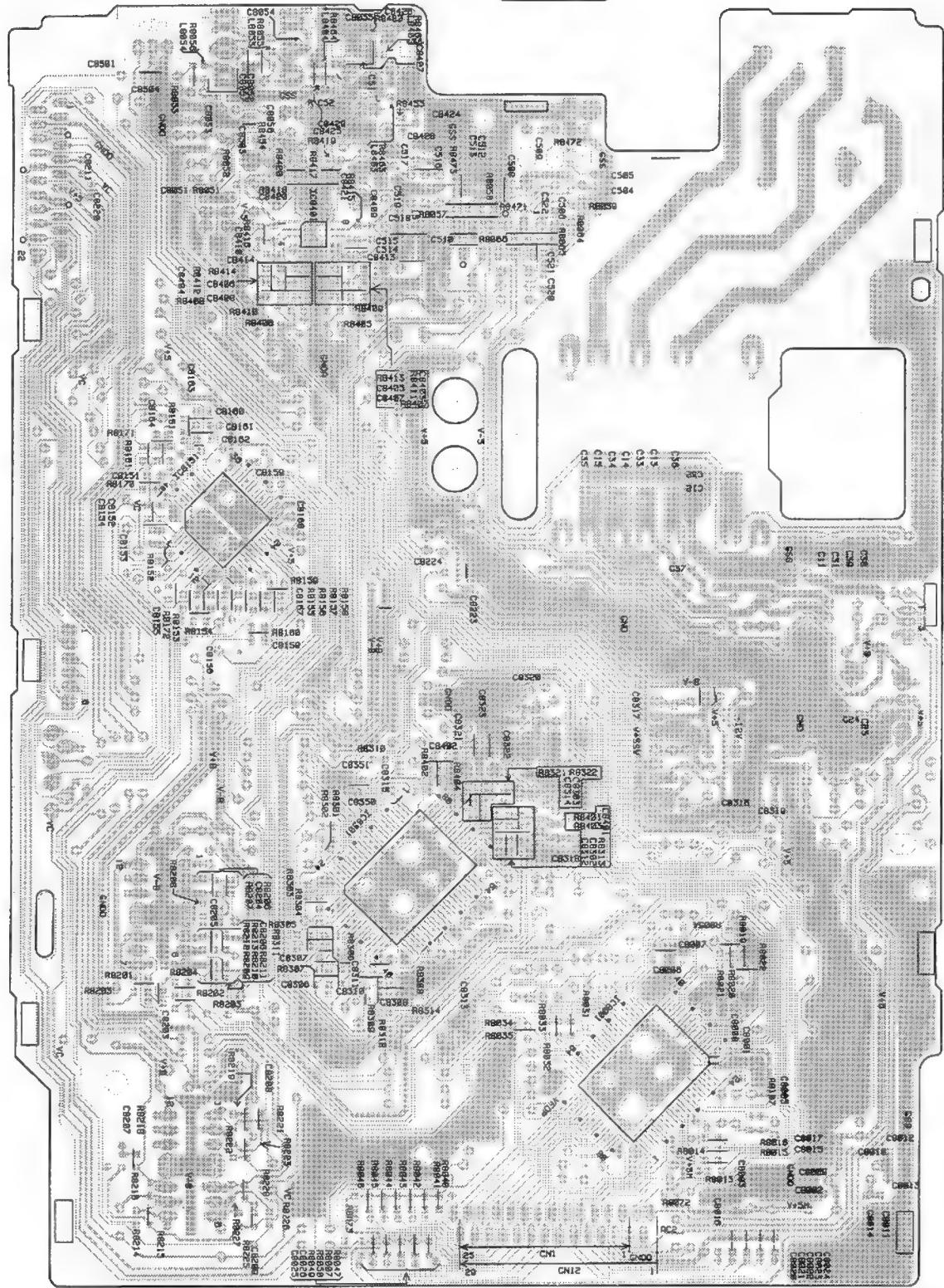
PCB- 2



CD ASSY

- This diagram is viewed from the foil side.

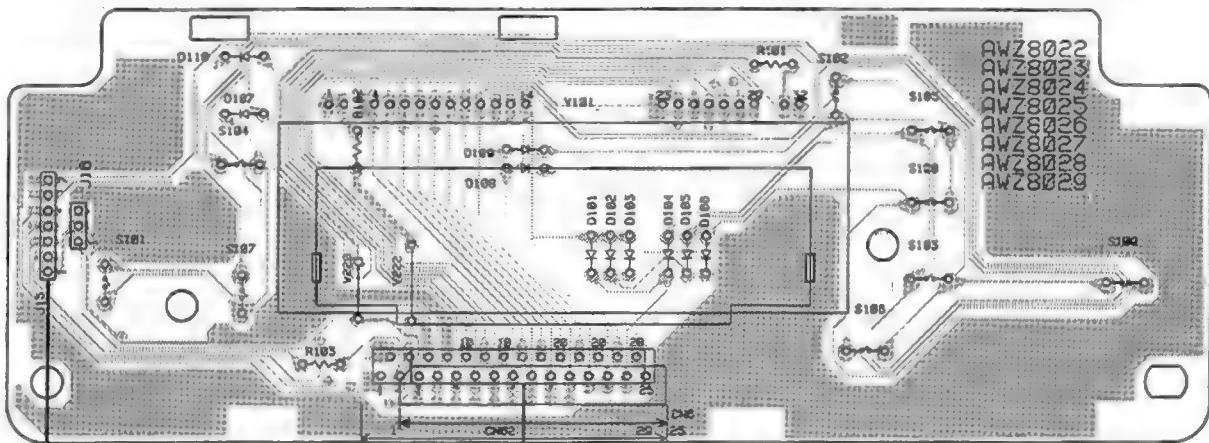
PCB- 3



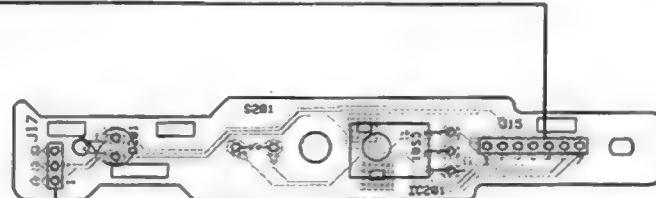
~~ANP7105-C~~

PCB-4

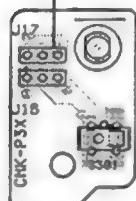
FRNT ASSY



TO CD ASSY CN12



IC201



ANP7105-C

- This diagram is viewed from the mounted parts side.

4. PCB PARTS LIST

NOTES:

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
 - The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
 - Parts marked by "◎" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.
 - When ordering resistors, first convert resistance values into code form as shown in the following examples.
- Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

560Ω	\rightarrow	56×10^1	\rightarrow	561	RDI/4PU561J
47kΩ	\rightarrow	47×10^3	\rightarrow	473	RDI/4PU473J
0.5Ω	\rightarrow	0R5			RN2H0R5K
1Ω	\rightarrow	IRO			RSIP1R0K

Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62kΩ	\rightarrow	562×10^3	\rightarrow	5621	RNI/4PC5621F
--------	---------------	-------------------	---------------	------------	--------------

Mark	No.	Description	Parts No.
------	-----	-------------	-----------

■ LIST OF ASSEMBLIES

NSP	LOADING MECHANISM BOARD ASSY	AWX7013
NSP	MECHA BOARD ASSY	AWZ7835
NSP	SENSOR BOARD ASSY	AWZ7836
NSP	MOTOR BOARD ASSY	AWZ7837
NSP	SW BOARD ASSY	AWZ7838

NSP	MOTHER ASSY	AWM7191
	CD ASSY	AWZ8017
	FRNT ASSY	AWZ8025
	MECHA. PCB ASSY	PWX1192

■ PCB PARTS LIST

MECHA BOARD ASSY

SEMICONDUCTORS	
Q651	DTC124ES
D651	VRPG561SS

RESISTORS	
R652	(10KΩ)
R651	(56KΩ)
R653	(220Ω)
R654	(0Ω)

OTHERS	
CN652	CONNECTOR
CN651	CONNECTOR
CN653	CONNECTOR

SENSOR BOARD ASSY

SEMICONDUCTOR	
D652	GP1S24

OTHERS	
J652	3P JUMPER WIRE

MOTOR BOARD ASSY

OTHERS	
	LOADING MOTOR

Mark	No.	Description	Parts No.
------	-----	-------------	-----------

SW BOARD ASSY

SWITCHES	
S651, S652	
	VSG1006

OTHERS	
J656	3P JUMPER WIRE

CD ASSY

SEMICONDUCTORS	
IC8151	CXA1372Q
IC8301	CXD2508AQ
IC31	ICP-N10
IC8201, IC8202	LA6520
IC12	NJM79L05A
IC8001	PD4664A
IC11	PQ05RR12
IC8401	XLA4558F-P
Q502	2SA1048
Q8401, Q8402	2SD2144S
Q8301	2SK246
Q8302, Q8403, Q8404	DTA143ES
Q503	DTC143ES
D11 - D15	11ES2
D8051 - D8056, D8301, D8401 - D8406	ISS254

D16	MTZJ18B
-----	---------

COILS	
L8051	LAU010J
L8301	LAU100J
L8401	LAU100J
L8321	LAU1R2J
L8001	LAU220J

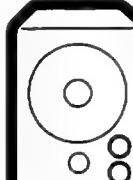
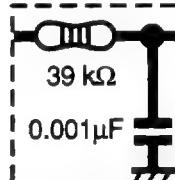
SWITCH	
S401	DSG1048

Mark No.	Description	Parts No.	Mark No.	Description	Parts No.
CAPACITORS					
C8322		CCSQCH100D50	▲	TERMINAL	RKC - 061
C8006, C8007, C8051, C8055		CCSQCH101J50	JA13, JA14	JACK	RKN1004
C8350, C8351, C8407 – C8410		CCSQCH101J50	CN8201	TERMINAL	VKN - 004
C8323		CCSQCH220J50	KN11, KN13	EARTH METAL FITTING	VNF1084
C8403 – C8406		CCSQCH271J50	X8001	CERAMIC RESONATOR	VSS1014
C8401, C8402		CCSQCH391J50	FRNT ASSY		
C8411, C8412		CEANP220M50	SEMICONDUCTORS		
C8004, C8167		CEAS101M10	D103 – D110		ISS254
C20		CEAS101M35	D20I		SLR – 342VCT31
C8430		CEAS220M50	SWITCHES		
C8423		CEAS221M10	S101 – S109, S20I		ASG1051
C19, C22, C8201, C8202, C8301		CEAS330M16	S30I		DSG1015
C18		CEAS331M16	CAPACITOR		
C17		CEAS332M16	C20I		CKSQYF103Z50
C8165, C8166		CEAS4R7M50	RESISTORS		
C8309		CEASR47M50	All Resistors		RD1/4PU000J
C8054, C8162, C8312, C8320, C8321		CKSQYB102K50	OTHERS		
C8001, C8152, C8157, C8158, C8160		CKSQYB103K50	CN62	29P CONNECTOR	S2044 – 2945
C8204		CKSQYB103K50	V10I	FL TUBE	AAV7020
C51, C52, C8306		CKSQYB152K50	J17	3P JUMPER WIRE	D20PWW0305E
C8161		CKSQYB332K50		REMOTE RECEIVER UNIT	GPIU28X
C8151, C8159		CKSQYB333K50	MECHA. PCB ASSY		
C8163		CKSQYB472K50	SWITCH		
C8307		CKSQYB473K50	S610		DSG1016
C8164		CKSQYB561K50	OTHERS		
C8005, C8168, C8203, C8205 – C8209		CKSQYF103Z50	CN610	CONNECTOR	173979 – 4
C8308		CKSQYF103Z50			
C8008 – C8010, C8315, C8316		CKSQYF104Z25			
C11 – C15, C8153 – C8156		CKSQYF104Z50			
C8302, C8303, C8310, C8420, C8421		CKSQYF104Z50			
C8002, C8003		CKSQYF473Z50			
RESISTORS					
R8501		RD1/4PU102J			
R11, R8012, R8036 – R8038, R805		RD1/4PU103J			
R8470		RD1/4PU103J			
R8323		RD1/4PU105J			
R8217, R8220, R8224		RD1/4PU113J			
R12 – R14		RD1/4PU152J			
R8008, R8009		RD1/4PU221J			
R504		RD1/4PU471J			
R8011, R8024, R8027 – R8030, R8039		RD1/4PU473J			
R8162		RD1/4PU513J			
R8025		RD1/4PU561J			
VR8151, VR8152 (22KΩ, 0.1W)		RCP1084			
Other Resistors		RS1/10S000J			
OTHERS					
CN13	22P CONNECTOR	52045 – 2245			
CN12	29P CONNECTOR	52045 – 2945			
X8301	CRYSTAL RESONATOR	ASS7000			
J11	3P JUMPER WIRE	D20PWW0310E			
JA11	JACK	AKB7043			

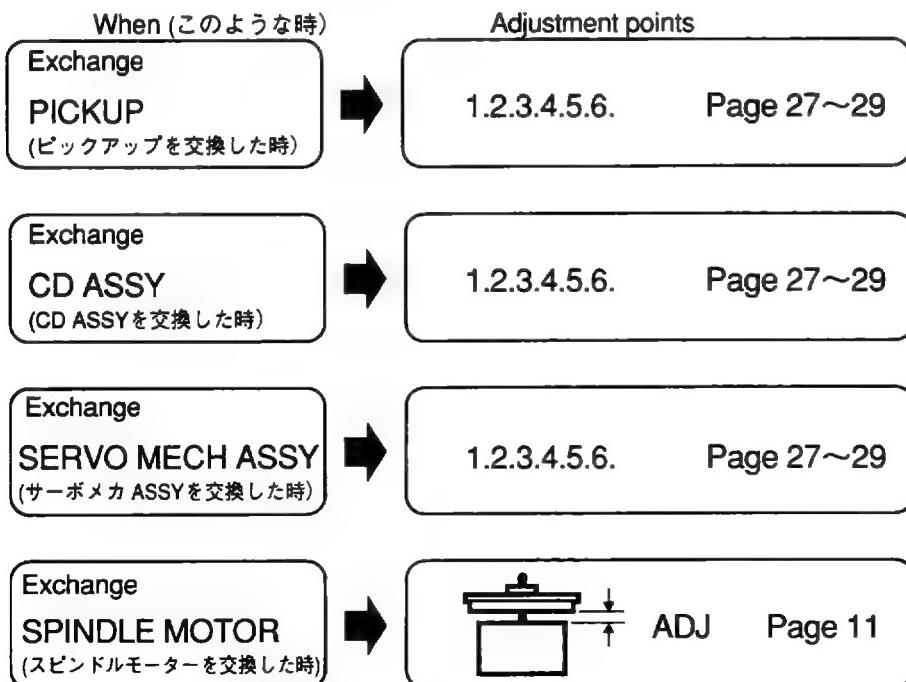
5. ADJUSTMENTS (調整方法)

5.1 PREPARATIONS (準備)

■ Jigs and Measuring Instruments (使用測定器/治工具類)

			
CD TEST DISC (YEDS-7)	⊖ Precise screwdriver	⊖ screwdriver (small)	⊕ screwdriver (medium)
			
⊕ screwdriver (large)	Low-frequency oscillator	Dual-trace oscilloscope (10 : 1 probe)	Low pass filter (39 kΩ + 0.001 μF)

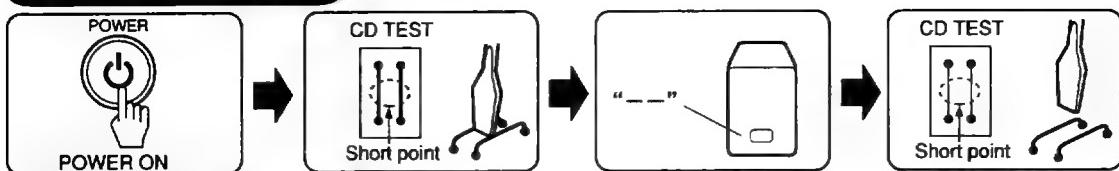
■ Necessary Adjustment Points (調整に必要な項目)



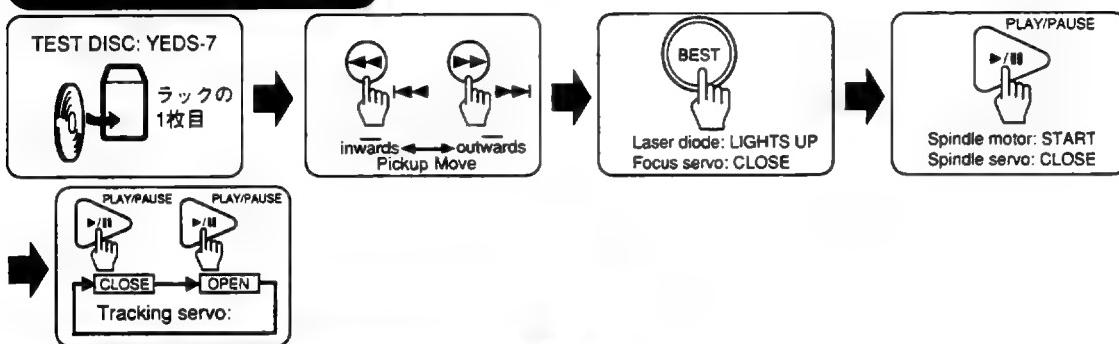
5.2 ADJUSTMENT (調整)

■ How to Start/Cancel Test Mode (テストモードの設定/解除)

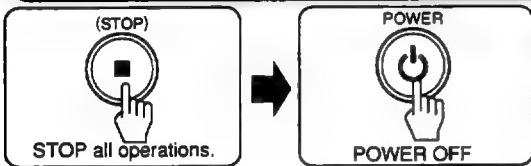
TEST MODE: ON



TEST MODE: PLAY

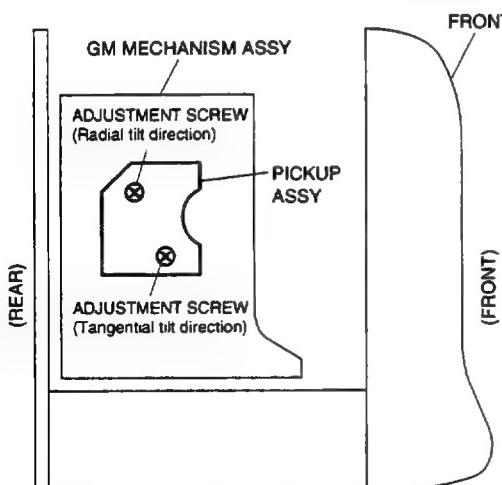


TEST MODE: STOP → CANCEL

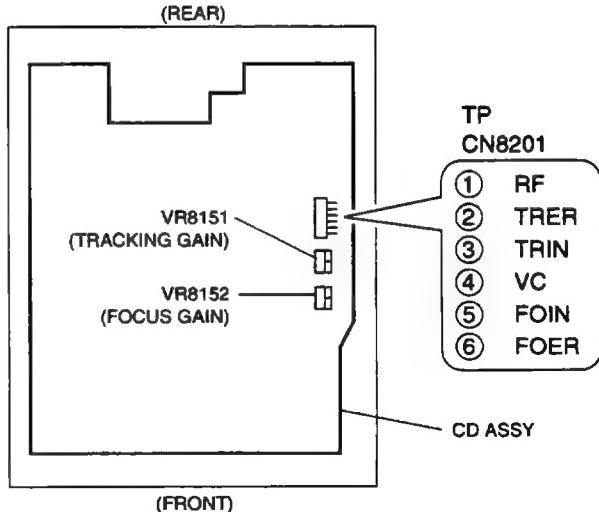


■ Adjustment Locations (テストポイントと調整用VRの位置)

SIDE VIEW



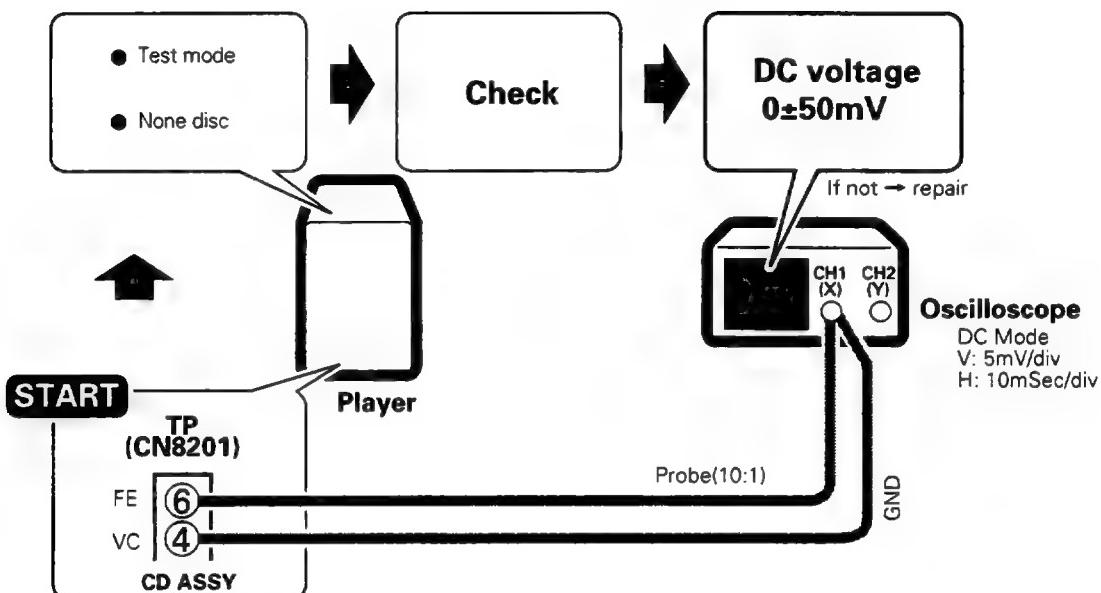
TOP VIEW



■ Check and Adjustment (確認、調整)

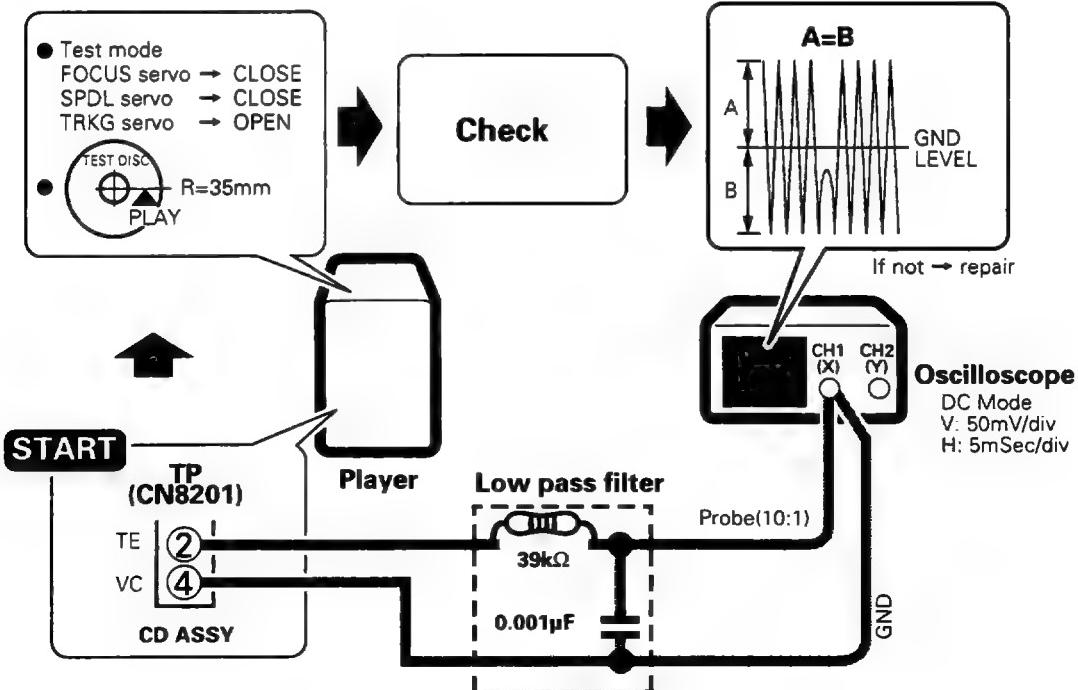
1. Focus Offset Check

(フォーカスオフセット確認)



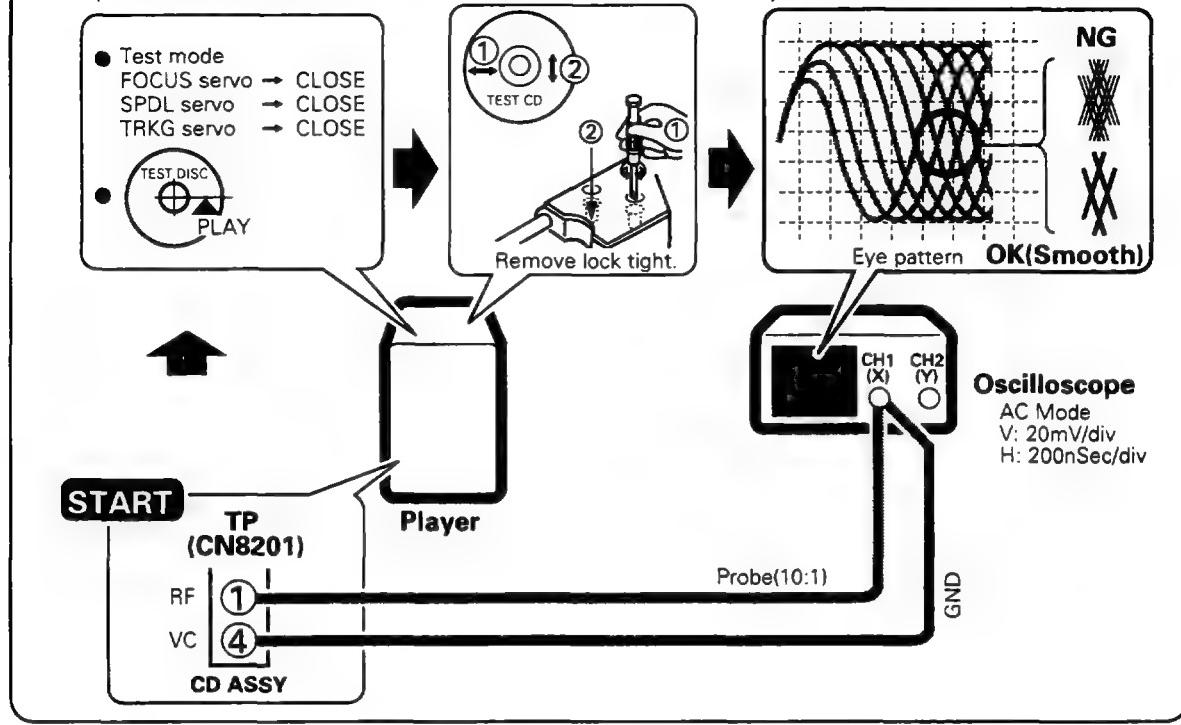
2. Tracking Error Balance Check

(トラッキングエラーバランス確認)



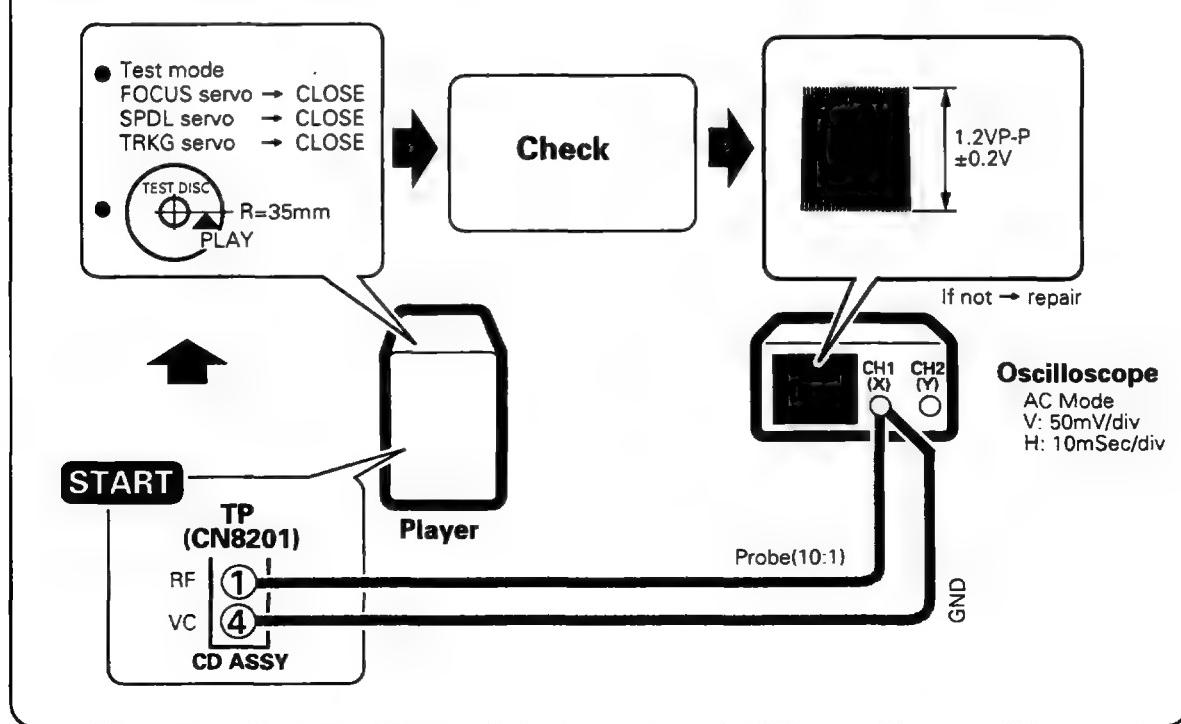
3. PICKUP ①RADIAL / ②TANGENTIAL DIRECTION TILT ADJUSTMENT

(ピックアップ①ラジアル方向②タンジェンシャル方向の傾き調整)



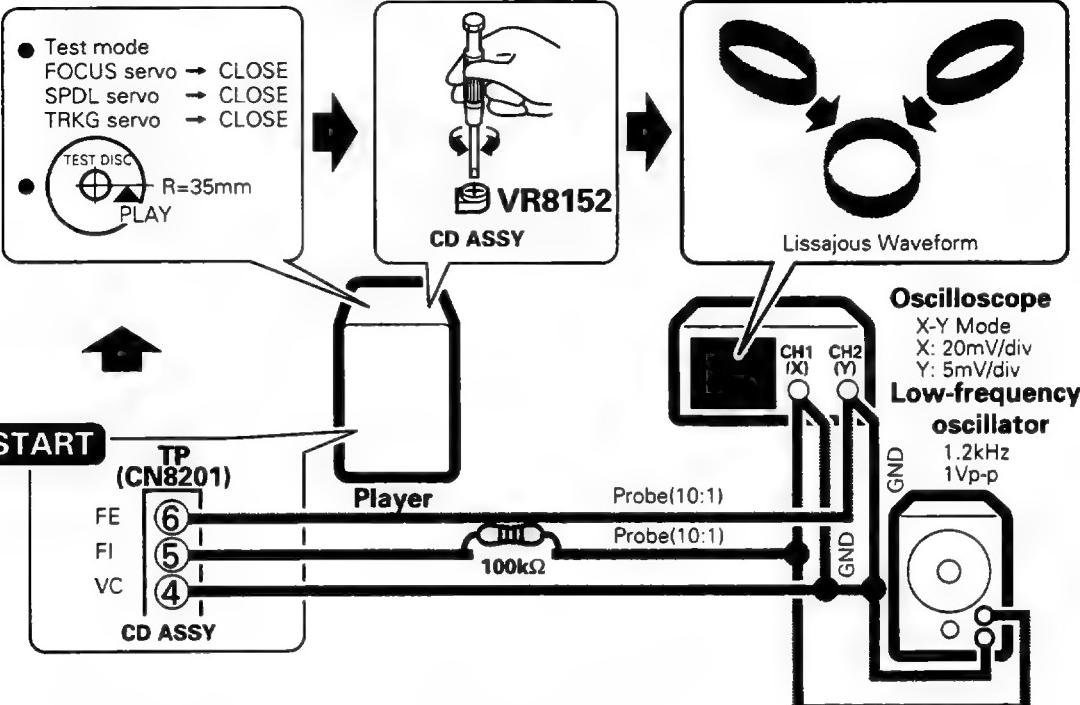
4. RF LEVEL CHECK

(RFレベル確認)



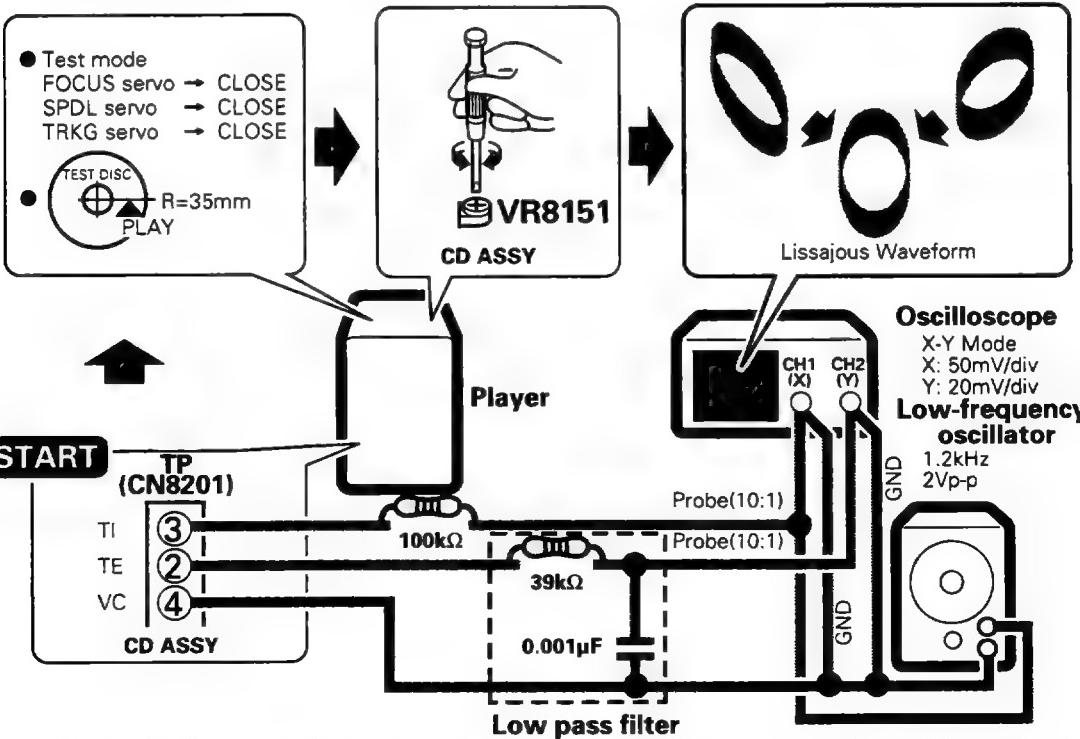
5. Focus Servo Loop Gain Adjustment

(フォーカスサーボループゲイン調整)



6. Tracking Servo Loop Gain Adjustment

(トラッキングサーボループゲイン調整)

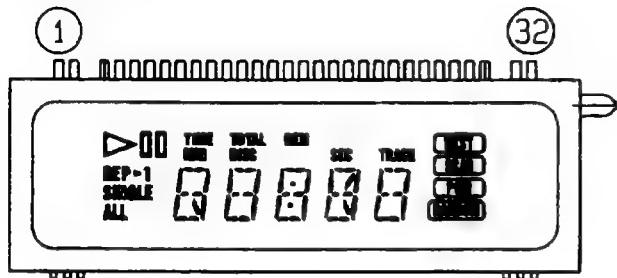


6. FL INFORMATION

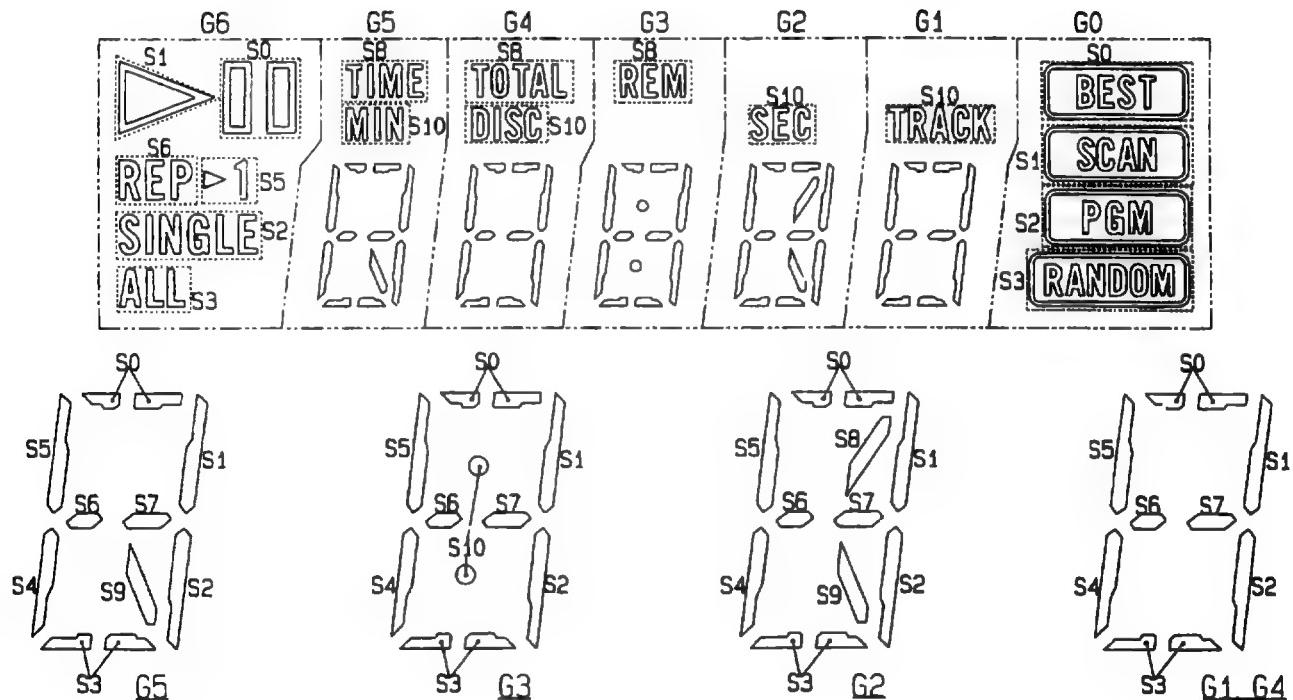
■ AAV7020 (FRNT ASSY : V101)

● FL TUBE

PIN LOCATION



ANODE GRID ASSIGNMENT



PIN ASSIGNMENT

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Assignment	F	F	NP	S9	S4	S3	S2	S7	S6	S5	S1	S0	S8	S10	NL	NL
Pin No.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Assignment	NL	NL	NL	NL	NL	NL	G6	G5	G4	G3	G2	G1	G0	NP	F	F

7. IC INFORMATION

■ PD4664A (CD ASSY : IC8001)

● CD CONTROL IC

- The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

● Pin Function

Pin No.	Mark	Pin Name	I/O	Function
1	P94/FIP6	GRID G6	O	FL driving DIGIT output. "L" : Output
2	P93/FIP5	GRID G5	O	
3	P92/FIP4	GRID G4	O	
4	P91/FIP3	GRID G3	O	
5	P90/FIP2	GRID G2	O	
6	P81/FIP1	GRID G1	O	
7	P80/FIP0	GRID G0	O	
8	Vdd	+5V	-	This pin is connected to +5V.
9	P27	DISP CLK	O	Not used.
10	P26	DISP DATA	O	Not used.
11	P25	MUTE	O	Muting output. "H" : MUTE
12	P24	"XRST	O	Reset for LSI. "U" : Reset
13	P23	"XLAT	O	LSI control data latch pulse. "U" : Latch
14	SCK1	CD CLK	O	LSI serial clock output.
15	SO1	CD DAT	O	LSI control data serial output.
16	SI1	SQSO	I	Subcode Q data serial input.
17	"RESET	"RST	I	CPU Reset. "U" : Reset
18	P74	"LD ON	O	Laser diode ON/OFF output. "L" : ON, "H" : OFF
19	P73	"XTAL ON/OFF	O	LSI oscillation control output. "L" : Oscillates, "H" : Stops
20	AVss	GND	-	This pin is connected to ground (GND).
21	P17	CD-G CE	O	Not used.
22	P16	CD-G MUTE	O	Not used.
23	P15	(CD-G RST)	O	Not used.
24	P14	(CD-G NTSC)	O	Not used.
25	P13	SENS	I	LSI operating state multi-mode input.
26	P12	GFS	I	Frame sync lock input. "H" : GFS OK
27	P11	FCOK	I	Focus OK input. "H" : FOCUS OK
28	P10	POWER ON	O	LSI power supply ON/OFF output.
29	AVdd	+5V	-	This pin is connected to +5V.
30	AVref	GND	-	This pin is connected to ground (GND).
31	P04	"INSD	I	Slider INSIDE SW input. "L" : INSD SW ON
32	XT2	OPEN	-	Not used.
33	Vss	GND	-	This pin is connected to ground (GND).
34	X1	OSC.	-	Mainsystem clock oscillation (4.19MHz).
35	X2			
36	P37	TEST	I	TEST mode judgment input. "H" : TEST mode
37	P36	"DOOR CLOSE	I	RACK SW input. "L" : Closed
38	P35	"DOOR OPEN	I	Not used.
39	P34	DSLT	O	Select motor output.
40	P33	DSRT	O	Select motor output.
41	P32	DCNT	I	Disc count pulse input. "H" : Returned to the home positions
42	P31	SB REO/ENA	I/O	System bus communication, request/enable.
43	P30	SB DATA	I/O	System bus communication, data input/output .
44	INTP3	SCOR	I	Subcode sync input. U : Subcode sync
45	INTP2	SBCLK	I	System bus communication clock input. S : System bus clock
46	INTPI	STBY	I	Not used (U : Microcomputer standby mode off input).
47	INTP0	RMDT	I	Remote control data input. U : Remote control data
48	IC(Vpp)	GND	-	This pin is connected to ground (GND).
49	P72	"HOME	I	Disc selector home SW input. "L" : Mechanism home position
50	P71	"EJECT	I	Loading out SW input. "L" : Ejected

PD4664A

Pin No.	Mark	Pin Name	I/O	Function
51	P70	CLMP	I	Clamped SW input. "L" : Clamped
52	Vdd	+5V	-	This pin is connected to +5V.
53	P127	P1S3	I	
54	P126	P1S2	I	
55	P125	P1S1	I	Not used.
56	P124	IN1	O	Not used.
57	P123	OUT1	O	Not used.
58	P122	LIN	O	Loading mechanism output.
59	P121	LOUT	O	Loading mechanism output.
60	P120	DOOR IN	O	Not used.
61	P117	DOOR OUT	O	Not used.
62	P116	KD2	I	Key data input.
63	P115	KD1	I	These pins also serve as input pins for model discrimination.
64	P114	KD0	I	
65	P113	(LED RACK)	O	Not used.
66	P112/F1P20	SEG S10	O	
67	P111/F1P19	SEG S8	O	FL driving segment output.
68	P110/F1P18	SEG S0	O	These pins also serve as SEG output pins for destination.
69	P107/F1P17	SEG S1	O	
70	P106/F1P16	SEG S5	O	
71	Vload	-	-	FLAC
72	P105/F1P15	SEG S6	O	
73	P104/F1P14	SEG S7	O	
74	P103/F1P13	SEG S2	O	FL driving segment output.
75	P102/F1P12	SEG S3	O	These pins also serve as SEG output pins for destination.
76	P101/F1P11	SEG S4	O	
77	P100/F1P10	SEG S9	O	
78	P97/F1P9	LED STBY	O	Standby indicator output. "H" : Lights
79	P96/F1P8	LED RED	O	Selector LED output. "H" : Lights
80	P95/F1P7	LED GR	O	Selector LED output."H" : Lights

Selector Output and Operation

Pin No.	Pin Name	Stop	(1→25) Rightward	(25→1) Leftward
39	DSLT	L	L	H
40	DSRT	L	H	L

Loarding Mechanism Output

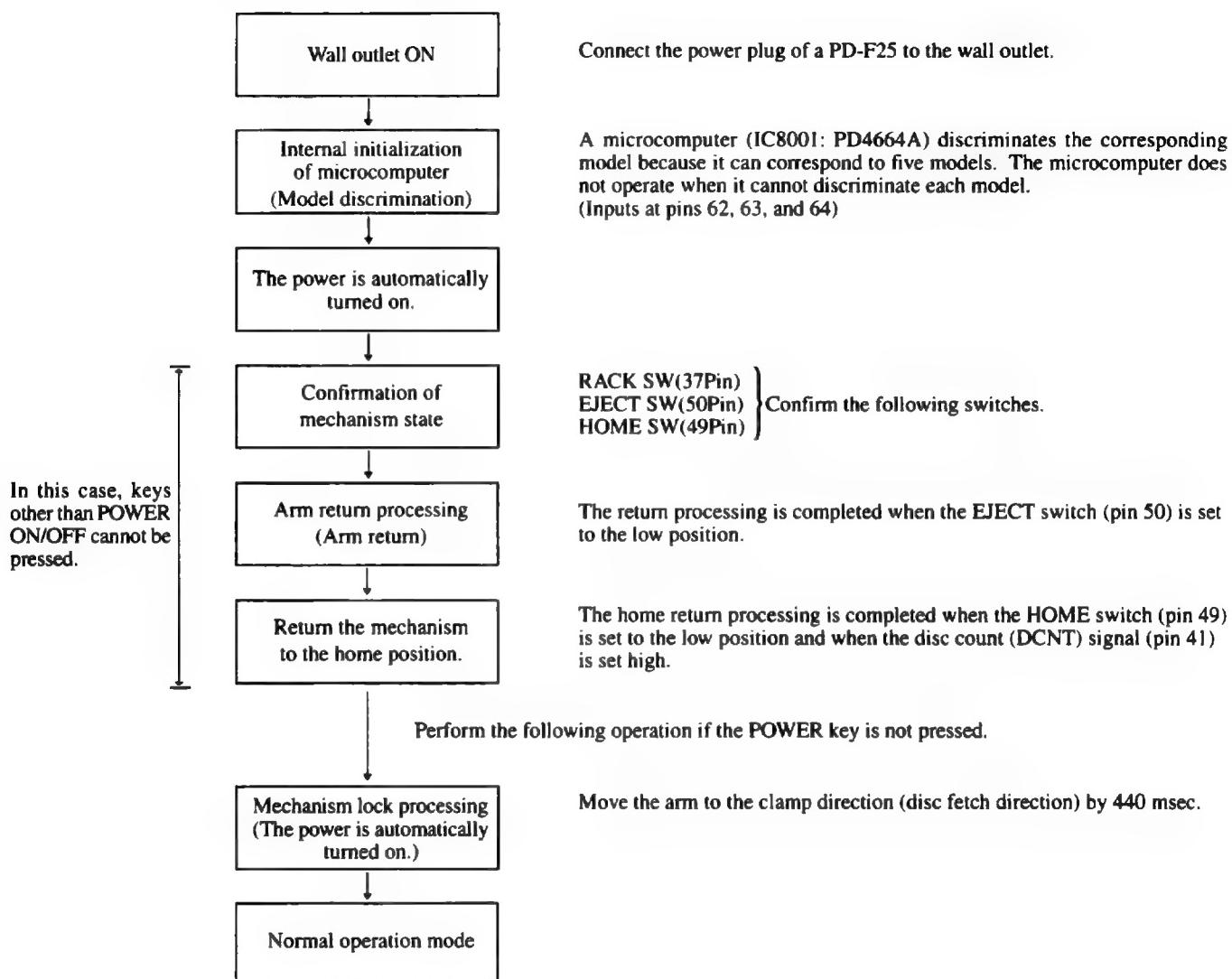
Pin No.	Pin Name	Stop	Clamp	Return
58	LIN	L	L	H
59	LOUT	L	H	L

Note : The output contents of this IC vary depending on the selection of model discrimination pins (pins 62 to 64). For the function confirmation of PD4664A installed in other products, refer to the Service Manual of the corresponding products.

8. OPERATIONAL DESCRIPTION

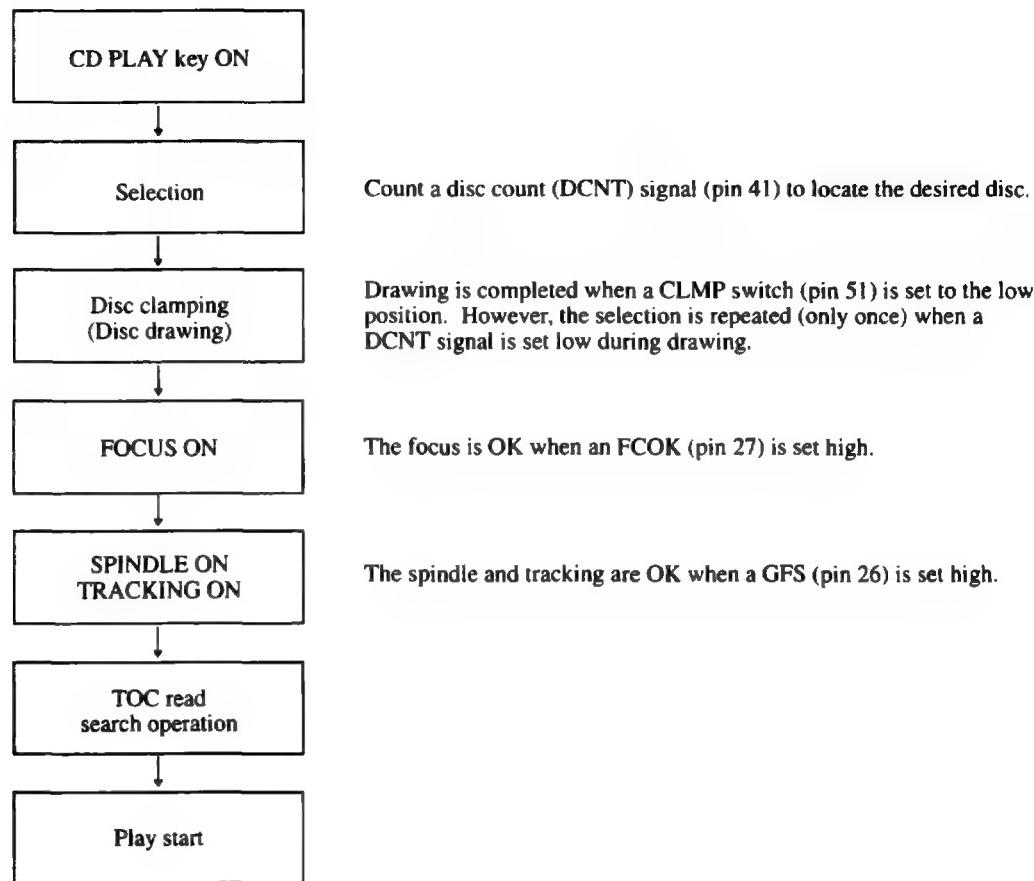
8.1 SETUP OPERATION FROM WHEN POWER IS TURNED ON

- If the unit is NG during each operation, the operation is performed again. If the operation is not completed at that time, the unit stops as NG. When the door is opened, the standby state is entered until the door is closed.



8.2 OPERATION IN PLAY MODE

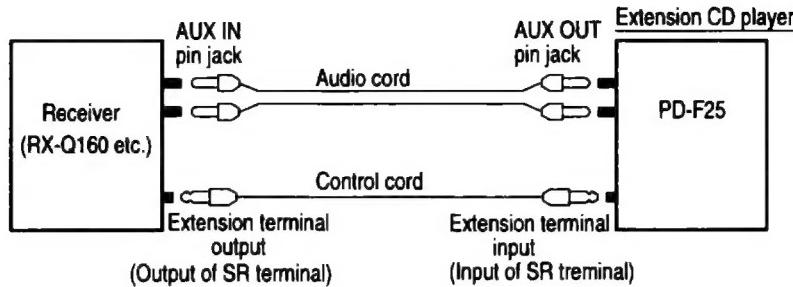
- The operation from when the function switch is set to the CD position and when the mechanism is put in the home position (standby state) is described below.



9. NEW FUNCTIONS

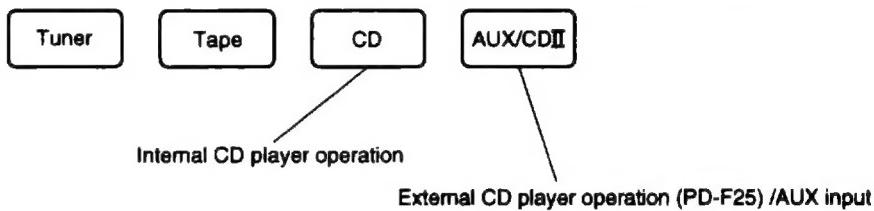
9.1 Extension Function <AUX/CDII:FUNCTION>

<Configuration>



<Operation>

An extension CD player operates when the function is set to AUX/CD II.(The function is set to AUX INPUT as before when there is no extension.)



The extension CD player can be also operated using a system remote controller.

CAUTION

The extension CD player is restricted in system operation as follows:

- There is no automatic function.
- No ASES
- There is no direction function that uses a remote controller. (Two-action)

9.2 BEST COLLECTION MEMORY

<Operation>

The tunes (a maximum of 25 tunes) during play are memorized when the **BEST** button is pressed in the PLAY mode.

The memorized tunes are played back in the order of memory when the **BEST** button is pressed in the stop mode.

<The contents of memory are maintained even if the standby mode is entered.>

9.3 PREVIOUS DISC SCAN

<Operation>

The number of a disc (a maximum of 25 tunes) that is usually played back is automatically memorized in time sequence. (The contents of old memory are sequentially cleared when 25 tunes are exceeded.)

(Example: Memory method)

Memory order (= Scan playback order)	1	2	3	4	.....	24	25
disc No.	22	8	9	15	.....	4	1

When the above state is memorized and disc 5 is played back.

"1" is cleared.

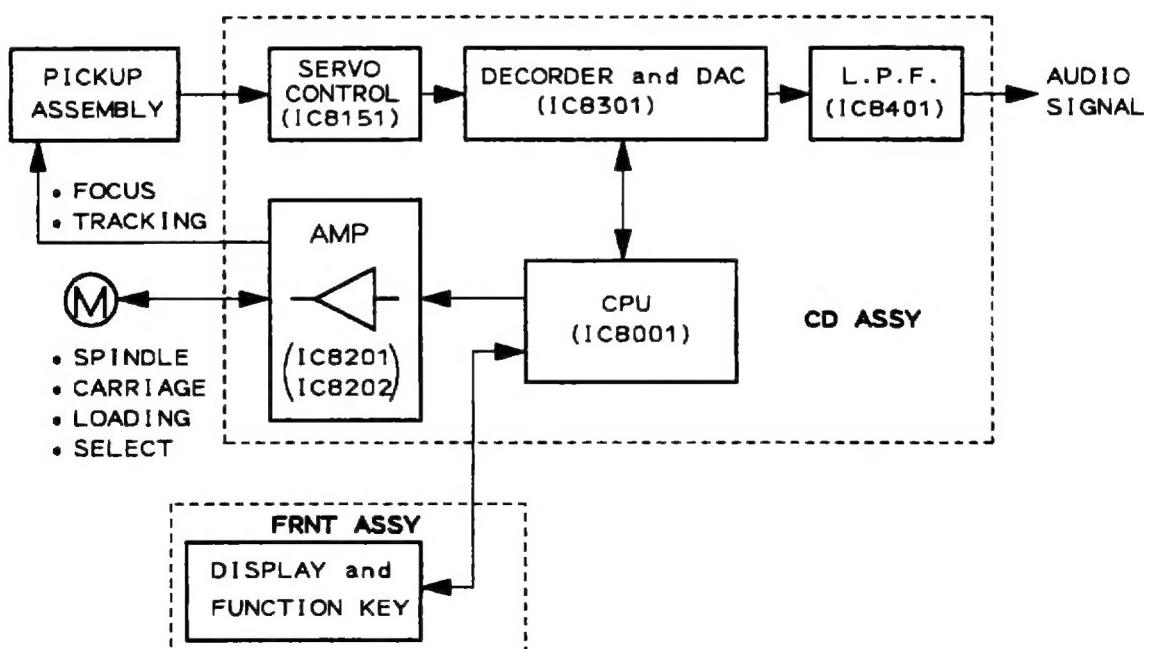
Memory order (= Scan playback order)	1	2	3	4	.....	25
disc No.	5	22	8	9	.....	4

The contents of memory are shifted, and the contents of old memory are sequentially cleared when 25 tunes are exceeded.

Highlight scan operation is performed in the order of newly memorized tune when the **TIME** button is pressed in the stop mode. When the **PLAY** button is pressed in the scan state, the scan operation stops and the disc is played back.

<The contents of memory are maintained even if the standby mode is entered.>

10. BLOCK DIAGRAM



11. DISASSEMBLY

11.1 FRONT PANEL

- ① Remove the BONNET.
- ② Remove the TENSION ROD.
- ③ Open the HOOD.
- ④ Remove the LINK.
- ⑤ Remove the SCREWS, under both side panels, fixing the FRONT PANEL and SUB CHASSIS.
- ⑥ Remove the FRONT PANEL toward you while removing the HOOK on the side panel.

Caution :

- Be careful not to damage the FRONT PANEL by the HOOK on the side panel of the BONNET when installing the BONNET.
- Pull out the power plug from the wall outlet after confirming that the STANDBY indicator lights. (The GM MECHANISM is locked in the home position.)

11.2 CD LOADING MECHANISM ASSY

- ① Open the HOOD.
- ② Move the GM MECHANISM to the center position while pushing the LOCK LEVER and LOCK ANGLE in the direction indicated by the arrow (release the home lock).
- ③ Remove the SCREW of the SHAFT HOLDER.
- ④ Remove the GM MECHANISM together with GUIDE SHAFT-25.

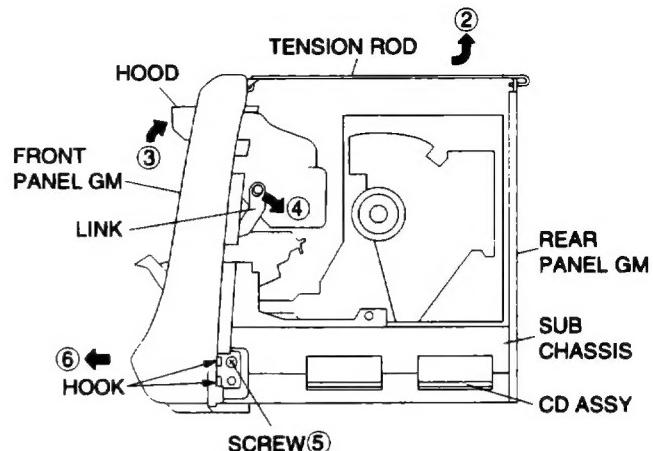


Fig. 1

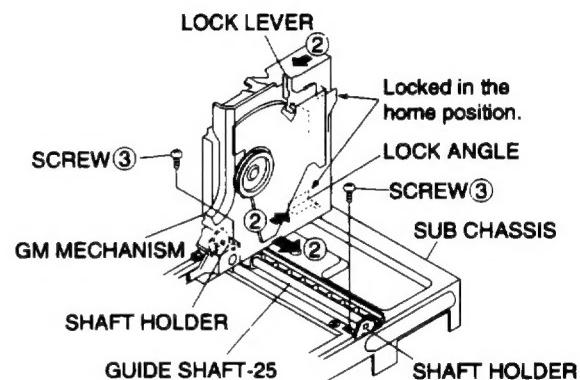


Fig. 2

11.3 BOARD DIAGNOSIS

- ① Remove the FRONT PANEL.
- ② Disconnect a FLEXIBLE CABLE 22P from the FLEXIBLE GUIDE.
- ③ Remove the two SCREWS (SUB CHASSIS fixing SCREWS) on the REAR PANEL.
- ④ Remove the GM MECHANISM together with the SUB CHASSIS, rotate the GM MECHANISM reversely in front and in the rear, and put it on the left of the product.

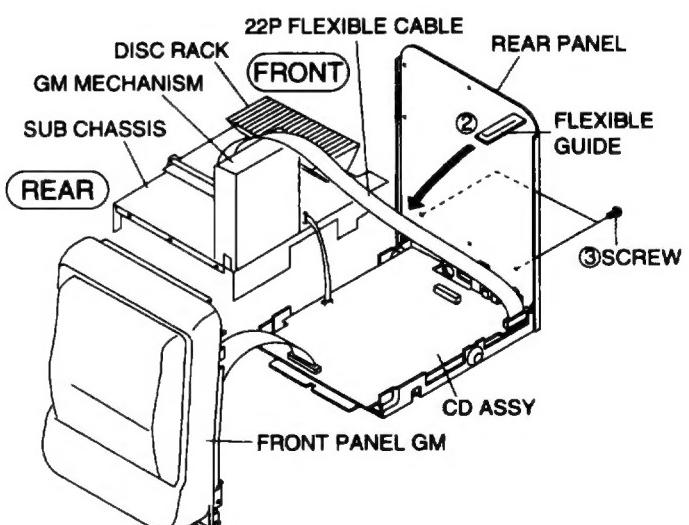
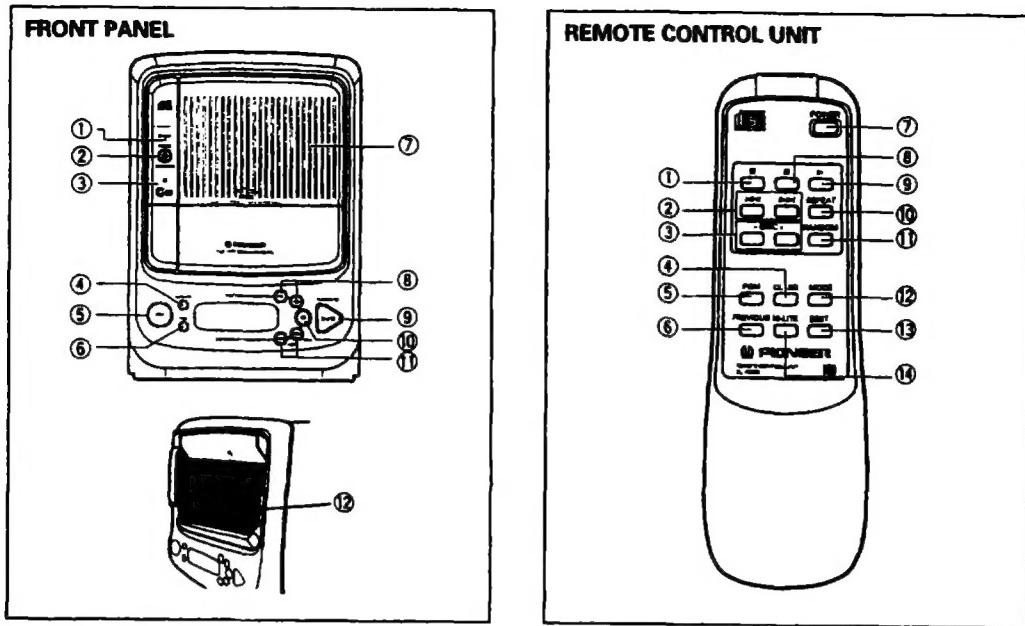


Fig. 3

12. PANEL FACILITES



- FRONT PANEL**
- ① STANDBY indicator
 - ② POWER STANDBY/ON switch
 - ③ Remote sensor
 - ④ RANDOM button
 - ⑤ BEST button
 - ⑥ TIME button
 - ⑦ Hood
The rack ⑫ comes forward when the hood is opened.
 - ⑧ DISC select buttons (+, -)
 - ⑨ PLAY/PAUSE button (▶/II)
 - ⑩ Stop button (■)
 - ⑪ Track/Manual search buttons (◀◀/◀◀, ▶▶ / ▶▶)
 - ⑫ Rack

- REMOTE CONTROL UNIT**
- ① Stop button (■)
 - ② Track search buttons (◀◀/▶▶)
 - ③ DISC select buttons (+, -)
 - ④ CLEAR button
 - ⑤ Program button (PGM)
 - ⑥ PREVIOUS button
 - ⑦ POWER buttons
 - ⑧ Pause button (II)
 - ⑨ Play button (▶)
 - ⑩ REPEAT button
 - ⑪ RANDOM button
 - ⑫ MODE button
 - ⑬ BEST button
 - ⑭ HI-LITE button

13. SPECIFICATIONS

1. General

Type	Compact disc digital audio system
Power requirements	
US model	AC120V, 60Hz
UK model	AC220-230V, 50/60Hz
Power consumption	12 W
Operating temperature	+5°C - +35°C (+41°F - +95°F)
Weight	3.2 kg (7lb 9oz.)
External dimensions ..	180 (W) x 250 (H) x 268 (D) mm 7-1/16 (W) x 9-13/16 (H) x 10-9/16 (D) in.

2. Audio section

Channels	2-channel (stereo)
S/N ratio	More than 102 dB (EIAJ)
Output level	2Vrms (EIAJ)

3. Output terminal

Audio line output
Control input/output

Accessories

● Remote control unit	1
● AA/R6P dry cell batteries	2
● Audio connection cable	1
● Control cable	1
● Disc case stand	1
● Operating instructions	1
● Warranty card	1

NOTE:

Specifications and design subject to possible modification without notice due to improvement.